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THEORY OF MUSIC

BY

ASGER HAMERIK, K. D.

DIRECTOR OF THE CONSERVATORY OF MUSIC OF THE PEABODY INSTITUTE,
BALTIMORE, MD.

PREPARED

FOR THE USE OF THE STUDENTS OF THE CONSERVATORY

BY

ELIZABETH ELLEN STARR

[PEABODY DIPLOMA FOR DISTINGUISHED MUSICIANSHIP, 1885]

BALTIMORE, MD.
1895

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DEUTSCH
LITHOGRAPHING & PRINTING CO.
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PREFACE

In the way of an introduction, I beg leave to explain in a few words, how this text-book came to be written and published. Twenty-four years ago, when appointed Director of the Peabody Conservatory of Music, I had sole charge of the classes in the Theory of Music. It was then my habit to teach by lectures rather than from text, and the students used to take notes of these lectures. At a later period I introduced Cherubini's Treatise on Counterpoint and Fugue, and Berlioz's Instrumentation, though the English translation of technical terms in both of these works left much to be desired upon the part of American students. Through this system of verbal instruction, partly original and partly quoted from standard authorities, my work went on for years with this effect, that upon the completion of a course of study each student had in his possession a book of his own, gleaned from his acceptation of the instruction. This naturally produced a variety of results, as no two were precisely alike. As the classes in theory grew in number, time became more limited, and I could no longer undertake to teach all who wished to study. It then occurred to me that a general text-book might be compiled from the various copies then in existence among the students.

In the year 1881, Miss Elizabeth Ellen Starr entered the Conservatory, completed the course of theory under my tuition, and received the Peabody Diploma for distinguished musicianship in 1885. I left it with her to undertake the no easy task of carrying out my intention, and thanks to her musical enthusiasm, indomitable energy and perseverance, this text-book was completed in 1888. The Peabody Conservatory had a copy made of the original manuscript, from which the professors dictated and taught; but again so much time was lost by this method, that its publication finally became a necessity. In one volume this text-book treats all musical topics from the Origin of Music to Instrumentation. It is interspersed with remarks and dates of historic interest, gives information as to the origin and meaning of technical terms, and abounds in appropriate illustrations. It is divided into six parts, viz.: Primary, Harmony, Counterpoint, Fugue, Form and Instrumentation. I beg leave to call attention to the treatment of relative and corresponding major and minor keys in connection with modulation, based upon a given cadence. This method has been in operation at the Conservatory for the last fifteen years, and has always succeeded in teaching the least gifted students to modulate with facility. Instrumentation, the theoretical knowledge of the various instruments up to date, the manner to write for each one and to combine them, is treated to some extent; also the duties of a director and the various ways of placing an orchestra and chorus.

The aim of this little text-book is to suggest, not to exhaust; matters will, therefore, necessarily be found condensed and simplified; but it is hoped, always clear and concise. It is mainly based upon the above mentioned works of Cherubini and Berlioz, and twenty-four years' personal experience, gained from teaching Theory of Music to American students.

In conclusion, I wish to make a public acknowledgement of my gratitude to the Board of Trustees of the Peabody Institute for assuming the publication of this work, and thus furthering the educational aims of the Conservatory.

ASGER HAMERIK, K. D.,
Director of the Peabody Conservatory of Music.

THE PEABODY INSTITUTE,
Baltimore, Md., 1895.

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PART FIRST.

PRIMARY.

ORIGIN OF MUSIC.

What is the derivation of the word Music, and in what is its origin to be found?

a. The word "Music" is derived from the Greek (a Muse), and its origin is to be found in the vibration of the air.

b. Any irregular vibration of the air produces sound.

c. A sound, of which the vibrations are scientifically determined, and therefore regular, is called a musical tone.

d. The deepest tone which is really musical is caused by 40 vibrations a second, and the highest in pitch by about 40,000 a second. But the tones employed in music have not so extended a range; they are practically embraced by about seven octaves, extending from 40 vibrations to about 5000 a second.

One musical tone differs from another in Color, Intensity and Intonation.

a. Color is the proper character of tone, the difference of which is shown in the Voice, Violin, Flute, etc.

b. Intensity is the greater or less power of the tone.

c. Intonation is a production of real or imaginary tones of different pitch.

WHAT IS THE DEFINITION OF MUSIC?

Music is a combination of tones, and consists of Melody, Harmony, Time and Rhythm.

a. Melody is a succession of single tones.

b. Harmony is a combination of several tones, producing chords, formed according to laws.

c. Time is the duration of measured tones.

d. Rhythm is a combination of Time.

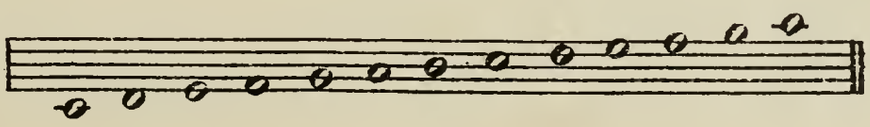
WHAT IS MUSIC AS AN ART?

The Art of Music is a poetical language to express abstract feeling, charm the ear, move the heart, interest the spirit and exalt the soul. The principle of its action is within us; the means of expressing it are mechanical.

NOTES.

We represent tones by signs called notes placed on or between five (5) lines called a Staff. Any notes going beyond these five lines require additional lines called Leger-lines. The notes, in English, are named after the first seven letters of the alphabet.

Ex. 1.



The duration of notes is indicated by signs called square, whole, half, quarter, eighth, sixteenth, thirty-second and sixty-fourth notes.

Ex. 1. Square note.

Ex. 2. Whole note.

Half notes.

Quarter notes.

Eighth notes.

Sixteenth notes.

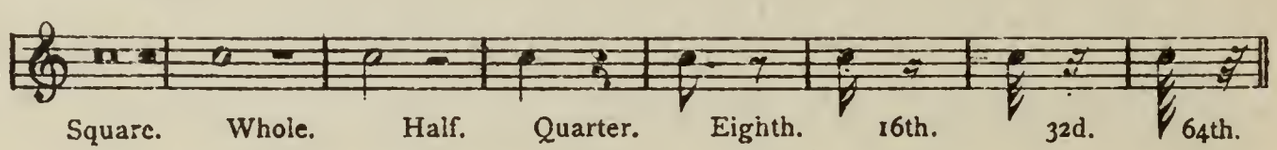
Thirty-second notes.

64th notes.

RESTS.

A *rest* is a sign indicating momentary interruption of the tone. There is a corresponding rest for every kind of note.

Ex. 3.



DOT.

A *dot* placed after a note or a rest increases its value one-half; if *two* dots follow a note or rest, the second dot is equal to one-half the value of the first.

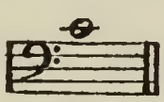
Ex. 4. = ½ + ¼ + ⅛ + ⅛ = one whole note.

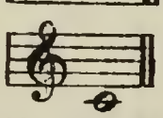
CLEFS.

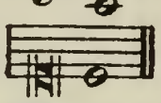
Clef (French)—key.

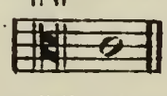
A *clef* is a sign used to indicate the degree of pitch and the position of the notes. It is placed at the beginning of a musical composition, upon one of the five lines of the staff.

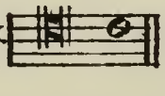
There are three clefs—F clef, G clef, and C clef. The following examples give the C's of the same pitch.

Ex. 5.  F or Bass Clef, on fourth line.

Ex. 6.  G, Treble or Violin Clef, on second line.

Ex. 7.  C Clef on first line, for Soprano.

Ex. 8.  C Clef on third line, for Alto.

Ex. 9.  C Clef on fourth line, for Tenor.

C Clefs on other lines of the staff are obsolete.

SIGNATURES.

A Signature is a sign placed before a note to indicate whether it must be raised or lowered. There are three kinds of signatures: Sharps, Flats and Naturals.

A *single sharp*, ♯, raises a note *one* semitone.

A *double sharp*, x, raises a note *two* semitones.

A *single flat*, ♭, lowers a note *one* semitone.

A *double flat*, ♭♭, lowers a note *two* semitones.

A *natural*, ♮, either raises flats in flat keys a semitone, or lowers sharps in sharp keys a semitone.

These signatures are used in order to create the exact reproduction of the diatonic scale starting from different points or key-notes and progressing in such a way, that the intervals of two tones and a semitone then three tones and a semitone may be preserved.

Any sharp, flat or natural occurring and not belonging to the scale in which we are, is called an "Accidental;" these are introduced in order to join one key to another, and this is called "Modulation."

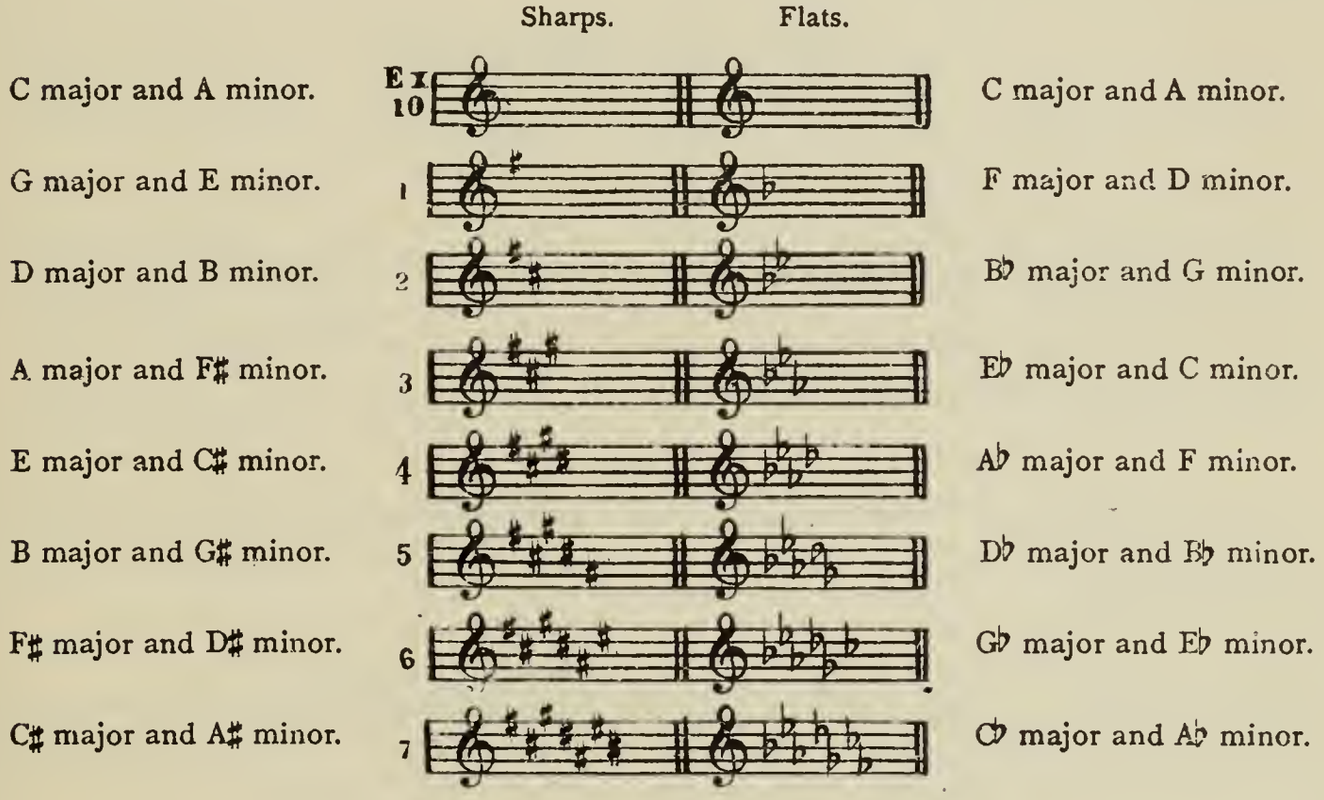
In order to obtain signatures we *ascend a fifth* for each additional *sharp*, and *descend a fifth* for each additional *flat* key. Thus a complete circle of fifths is formed, enabling us to see the exact progression of the signatures.

KEYS.

We have seven (7) Sharp and seven (7) Flat keys, relative major and minor.

These form the two different modes, having the same signatures, but different key-notes.

The relative minor is found a minor third below the major key.



TIME.

In order to indicate time, bars are placed on the staff, and between them are placed notes; the distance between these bars is called a measure, and the number of notes in a bar or measure forms the time. Double bars are used to indicate the end of a part, or of the whole of a composition. There are two kinds of time, *Single* and *Compound*.

Single time cannot be divided, and commences with the numbers 2, 3, 5 and 7, whether they consist of halves, quarters, or eighths, etc.

EXAMPLE IN SINGLE TIME.

Ex. 11. $\frac{2}{2}$, $\frac{2}{4}$, $\frac{2}{8}$, $\frac{3}{2}$, $\frac{3}{4}$, $\frac{3}{8}$, $\frac{5}{4}$, $\frac{5}{8}$, $\frac{7}{4}$, etc.

Compound time is a combination of single time.

EXAMPLE IN COMPOUND TIME.

Ex. 12. $\frac{4}{2}$, $\frac{4}{4}$, $\frac{4}{8}$, $\frac{6}{4}$, $\frac{6}{8}$, $\frac{9}{8}$, $\frac{12}{8}$, etc.

C stands for common time or $\frac{4}{4}$.

¢—Allabreve—indicates common time divided into two beats to the measure. It is better to write it with the figure 2.

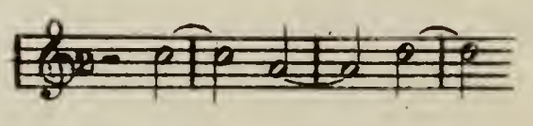
ACCENTUATION OF TIME.

In time of 2, 3, 5 and 7 the accent falls on *one.*
In compound time, as in $\frac{4}{4}$, the accent falls on *one* and *three.*
In $\frac{8}{8}$ time on *one* and *four.*
In 9 time on *one, four* and *seven.*
Any kind of notes may be divided into triplets.

SYNCOPATION.

The regular accent of a measure is sometimes changed, the *unaccented* part receiving the *accent.* This is done by means of syncopes, or suspended notes.

Ex. 13.



RHYTHM.

(Greek, meaning measure.)

We call a musical phrase a succession of tones, a group of measures of which the whole constitutes the musical idea.

Rhythm is used to indicate the proportions which exist between different musical phrases. In other words, *rhythm is symmetric order in time.*

TEMPO.

In order to express the velocity or speed of the notes to be performed, we place at the beginning of a composition certain words borrowed from the Italian, of which the following are the ones most frequently used:

Issimo is the superlative degree, and can be added to any movement.
Ino and *etto* added to a fast movement make it slower, and to a slow movement, faster.
Adagissimo—Slowest movement; very much at ease.
**Adagio*—At ease; slow.
Lento—Slow; drawn out.
Largo—Large and broad.
Larghetto—Less slow than largo.
Andante—Walking movement; not rapid.
Andantino—Little faster than andante.
Allegro—With animation; gay.
Allegretto—Faster than andantino, and less gay than allegro.
Vivace—Lively; rapidly.
Vivacissimo—Very quick and lively.
Presto—Very fast.
Prestissimo—Quick as possible.
Agitato—Agitated.
†*Scherzo*—A joke.
Scherzando—Jocosely.

* *Ad*, at; *agio*, ease.

† Generally in triple time.

Some of these expressions are modified by the following additions:

Con brio—With brilliancy.
Con fuoco—Fiery.
Con anima—With animation.
Più—More.
Meno—Less.
Ma non tanto—But not too much so.
Moderato—Moderately.
Molto—Very.
Assai—A shade stronger than molto.
Un poco—A little.

ORNAMENTAL TERMS.

Dolce—Sweetly.
Sostenuto—Sustained.
Amoroso—Amorously; in a loving, tender manner.
Affettuoso—Affectionately.
Lusingando—Coquettishly.
Calando—Calming down in tone and time.
Rubato—Irregular time.
Stringendo, *Accelerando*, } Increasing in speed.
Rallentando, *Ritenuto*, *Ritardando*, } Decreasing in speed.
Smorzando—Growing softer.
Morendo—Dying out.
Risoluto—Resolutely.
Canon (a catch)—One voice coming in after a previous voice has finished the strain.
Tempo primo—Return to the original time.
Piano (*p*)—Softly.
Pianissimo (*pp*)—Very softly.
Forte (*f*)—Loud; Strong.
Fortissimo (*ff*)—Very loud.
Mezzo forte (*mf*)—Half loud.
Mezzo voce—Half voice.
Sotto voce—Low voice; in a whisper.
Diminuendo—Diminishing in tone (*dim.*).
Decrescendo— Decreasing in tone.
Crescendo— Increasing in tone.

There are three ways of performing notes—Legato, Staccato and Portamento:

Legato—Smooth,

Staccato—Detached,

Portamento—Drawn out,

Attacca—Attacked. Passing without interruption from one movement to another.

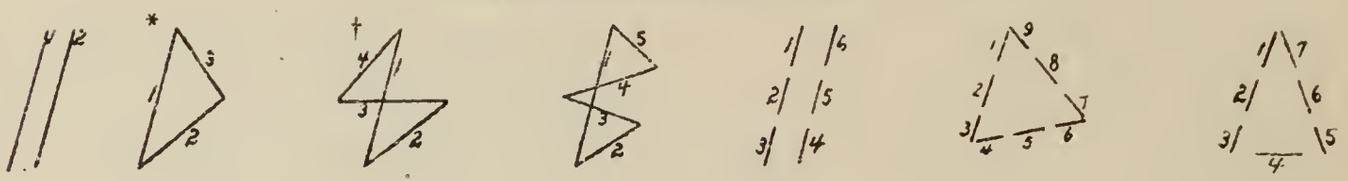
METRONOME.

The terms previously used are indications of only the *approximate* speed. In order to obtain the *exact* speed of a composition, one beat of the measure is indicated by a figure attached to a quarter, eighth, or half note, etc. This figure indicates the beat of the Metronome or time measurer. This Metronome is a clock-work, arranged with pendulum and a regulator. The regulator is arranged so as to slide up and down, facing a scale of figures ranging from 40 to 208, and can be so adjusted as to give the exact number of beats in the measure. This pendulum moves at the rate of 60 beats in a minute. If the piece is marked Allegro (♩ = 120) in 4/4 time, it means that the beat of 1/4 note equals 1/2 a second. For example, if there are 30 bars, or 120 beats in one minute (or 60 seconds), there is one-60th of 30 bars = 1/2 bar in one second, and 1/4 of a bar in 1/2 second.

The principal beats of the measure are marked by the use of the Baton. The downward beat to the *accented* part, and the upward beat to the *unaccented.*

EXAMPLES FOR MARKING TIME.

Ex. 14.



SCALES.

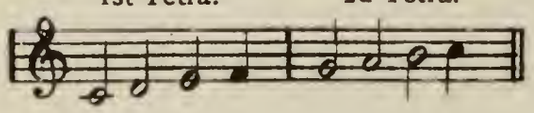
Scala (a staircase), from the Italian.

A scale is a consecutive succession of tones. The progression from one tone to another is called a step. There are three kinds of scales, viz.: Diatonic, Chromatic and Enharmonic.

DIATONIC SCALE.

Dia (Greek, meaning through); Tonica (Latin, tone), advancing through tones.

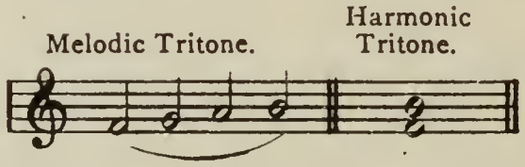
Ex. 15



The diatonic scale consists of seven steps, containing five whole tones and two semitones, these forming two major tetrachords, each of which contains two whole tones and one semitone.

A tritone—augmented 4th or diminished 5th—is a succession of three whole tones, and is in any scale the distance from the subdominant to the leading note.

Ex. 16



Tritone in the scale of C major.

There are two modes of the diatonic scale—*major* and *minor*. There are *relative* and *corresponding* minor scales. The *relative* minor is found a minor third below the major key, and the *corresponding* minor is found by lowering the 3d, 6th and 7th of the major scale.

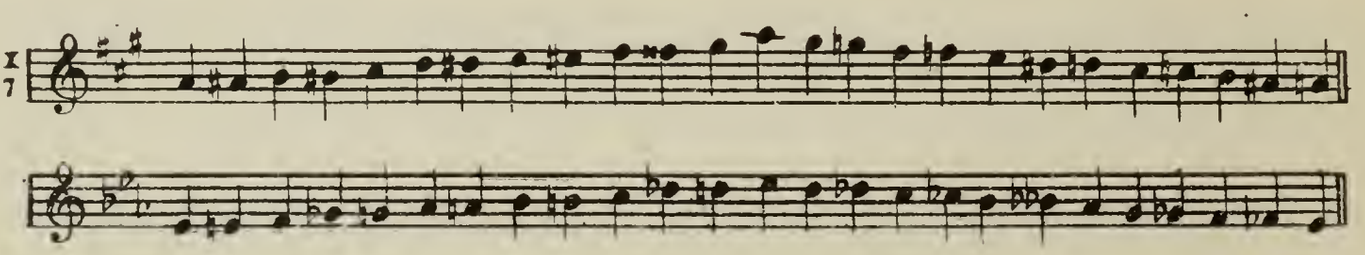
CHROMATIC SCALE.

Chromo (Greek)—color.

The chromatic scale is formed of a succession of semitones, C to C♯, etc.; in sharp keys, ascending by sharps and double sharps, and descending by sharps and naturals; in flat keys ascending by flats and naturals, and descending by flats and double flats. The move between two semitones may be either chromatic or diatonic. It is always chromatic if the note retains its position on the line or interval of the staff.

C to D♭ is diatonic in any scale which contains C and D♭, as in A♭ major. But C to D♭ is chromatic in the scale of C major.

Ex. 17



*The second beat to the right is more important to be seen by the players than the third.—*Berlioz.*

†In time of four beats to the measure most directors indicate the second beat to the left and the third to the right.

ENHARMONIC SCALE.

Enharmonic means tones which are identical, but of a different signature. Our present well-tempered keyed instruments have done away with the use of the enharmonic scale, but for convenience in writing, if we want to pass readily from sharps to flats, or *vice versa*, we make use of this scale, or more properly speaking, the "*enharmonic change.*"

For example—the scale of C♯ (7 sharps) is the enharmonic scale of D♭ (5 flats).

INTERVALS.

The progression from one note to another is called a *step*, and an *interval* is the distance between two steps. Of these intervals we have seven. The 1st, 2d, 4th, and 5th are invariable or perfect in the diatonic scale, the 3d, 6th and 7th are variable, being major in major keys and minor in minor keys. There are also augmented and diminished intervals. If the invariable intervals of the diatonic scale are raised, then they are said to be augmented, viz., from C to G♯ is an augmented 5th, from C to D♯ is an augmented 2d, from C to F♯ is an augmented 4th. If lowered, they are called diminished; C to G♭ is a diminished 5th, from C to F♭ is a diminished 4th. With the variable intervals the majors can be augmented by raising a semitone, and the minors be diminished by lowering a semitone; C to E♯ is an augmented 3d, D to F♭ is a diminished 3d.

UNISON.

We call *unison* two tones whose intonation is the same. In other words, *unison* is absence of interval.

MOTION.

If notes follow each other *conjointly*, they are said to produce diatonic motion; if *disjointly*, they produce harmonic motion.

Motion, where different parts are concerned, is of three kinds:

1. Similar motion, or the parts proceeding alike.
2. Contrary motion, or the parts proceeding in opposite directions.
3. Oblique motion, where one or more parts remain stationary, and the other parts ascend or descend.

HUMAN VOICE.

The human voice consists of two classes, male and female, and the latter includes the voices of children. The male voice is the deepest, and the female is the highest. The male voice is divided into two sections, Bass and Tenor. The female voice is divided into two sections, Soprano and Alto. The quartet of human voices is as follows:

Soprano, meaning upper voice.

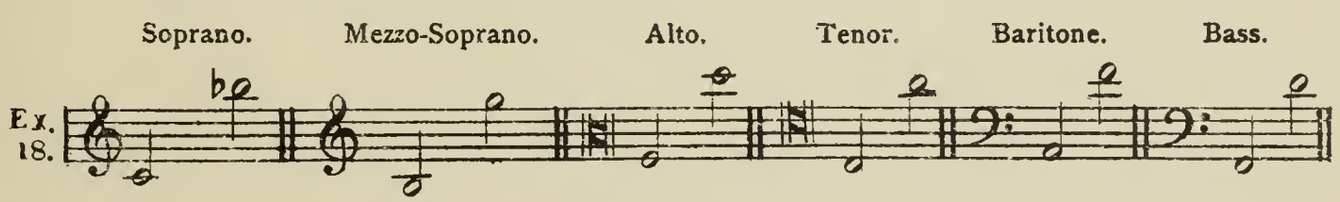
Alto, meaning high voice.

Tenor, meaning leading voice.

Bass, meaning deep voice.

The Soprano is again divided into *Mezzo-Soprano*, being a shade lower than Soprano itself, and the Bass voice is divided into *Baritone*, this being a shade higher than the Bass.

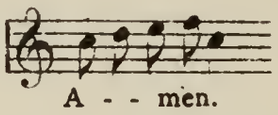
These six voices have the following compasses ordinarily, though this is only approximate, as each of them can vary between one and two tones, and can only be really determined by the character or color of the tone.

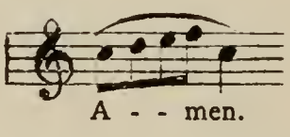


Frequently the different voices are merely distinguished by the numerals I., II., III., etc. The "first" always applies to the highest voice, the "second" is the next below, etc.

The average of compass in the different voices is generally an octave and a half, but cultivation and perseverance often extend it considerably.

In writing for the voice one must be particular in the grouping of notes, as every syllable requires a detached note, but if there are more notes than one to a syllable they should be connected by a line or slur.

Instead of writing 

, it should be written thus, 

MUSICAL INSTRUMENTS.

Musical instruments are divided into three classes : string, wind and percussion.

To the strings belong the Violin, Viola, Violoncello, Double-bass, Harp, Guitar, Piano, and all similar instruments constructed upon the same principle. Stringed instruments are divided into two classes : those upon which we perform with the fingers, either directly or indirectly, and those where the tone is drawn out by a bow. To the first class belong the Piano, Harp, Guitar, etc. To the second class belongs the family of Violins.

Wind instruments are divided into two classes, viz.: wooden and brass. To the wooden belong the Piccolo-flute, Flute, Oboe, English-horn, Clarinet, Bass-Clarinet, and Bassoon or Fagot. To the brass instruments belong the French-horn, Trumpet, Trombone and Tuba. The Organ is a mechanical imitation of these instruments.

To the instruments of percussion belong the Kettle-drum, Bass-drum, Cymbals, Triangle, etc. These instruments of percussion, excluding the Kettle-drum, do not contain musical tones, but are used to heighten the effect of the others in rhythm. The compass of musical instruments will be discussed under the head of "Instrumentation."

PART SECOND.

HARMONY.

In order to form harmony, we select a fundamental bass upon which to build. This bass is taken from the diatonic scale of seven steps. In order to know these steps, we assign to each a particular name.

1. The key-note of the major scale is called the *Major Tonic* (from Tonica, Latin, meaning tone).

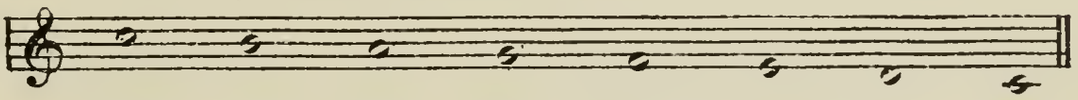
2. The 4th below the *Major Tonic* is the *Major Dominant* (*Dominus*, master).

3. The note below the *Major Dominant* is the *Major Sub-dominant* (*Sub*, under).

4. The semi-tone below the *Major Tonic* is the *Leading-note*, so called because it leads into the *Major Tonic*, or key-note.

5. A minor third below the *Major Tonic*, *Major Dominant*, and *Major Sub-dominant*, we find the *Minor Tonic*, *Minor Dominant* and *Minor Sub-dominant*.

Ex. 19.



Major Tonic. | Leading note. | Minor Tonic. | Major Dominant. | Major Sub-dominant. | Minor Dominant. | Minor Sub-dominant. | Major Tonic.

A good practice for the student is to find the tonic, dominant and sub-dominant to any key. For example, the minor dominant to C♯ major is E♯ minor; the minor sub-dominant to E♭ major is F minor. Knowing the major tonic, it is easy to find the minor tonic, which is a minor third below; then, from that, proceed to find the minor dominant, subdominant and leadingnote in the same manner as for a major key.

CHORDS.

The building which we construct of the notes we call chords, of which we have three kinds: chords of three, chords of four and chords of five notes.

COMMON CHORD.

This chord consists of three notes, and they are the first, third and fifth of a scale. The first and fifth are invariable. The third is variable, being major in major keys, and minor in minor keys.

Ex. 20 a.

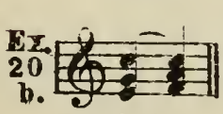
Major. Minor.

The common chord requires no resolution, and may be used upon every note of the scale. The common chord has two inversions, viz., the sixth and four-sixth.

THE SIXTH CHORD.

6th-Common

Ex. 20 b.

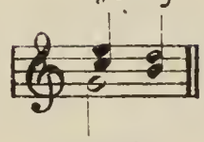


Resolution.

The 6th chord consists of the 1st, 3d and 6th, or is the second position of the common chord; consequently the root is the third below the bass. The sixth chord resolves upward into a common chord. The 6th (C) is retained, the 3d (G) ascends to A, and the 1st (E) ascends to F, forming the common chord on the subdominant or F major, in this example. Any note of the 6th chord may be doubled, even many times. The 6th chord is always used on the leading note.

THE FOUR-SIXTH CHORD.

Ex. 21. 4/6—5



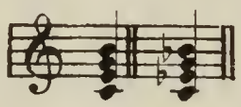
Resolution.

The 4/6 chord consists of the 1st, 4th and 6th, and is the third position of the common chord. In the resolution of this chord, the bass remains, and the chord resolves into the common chord. The four-sixth chord can be used upon the tonic and dominant, but not on the *major* subdominant, because *its* 4th is augmented and not perfect. If used on the *minor* subdominant it will have a major 6th, and thus destroy the minor character of the chord. The root of the four-sixth chord is always found the fifth below the bass.

CHORDS OF FOUR NOTES.

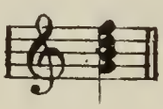
The seventh chord consists of the common chord with the seventh added, thus forming a chord of four notes. The 1st and 5th are invariable, the 3d and 7th variable, being major in major keys, and minor in minor keys.

Ex. 22.



The 7th chord is usually found on the dominant, in this case the 3d is major and the 7th

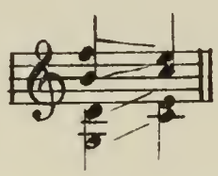
Ex. 23.



7

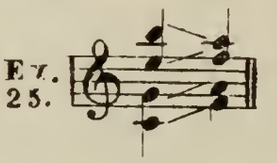
minor, and it properly resolves into the common chord on the tonic; the 3d ascends, the 5th ascends or descends at pleasure, and the 7th descends.

Ex. 24.



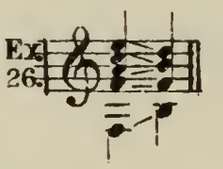
If the 7th chord is used on the tonic, it resolves into the common chord on the subdominant.

Ex. 25.



If the 7th chord is used on the subdominant, it can resolve into the common chord on the leading note.

Ex. 26.



Except when used in a sequence, this resolution is not altogether satisfactory, as the common chord on the leading note has no perfect 5th. It is therefore better to change the 7th chord on the subdominant into the 5/6, 3/4/6, or 2d chord, at pleasure.

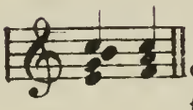
Ex. 27

There are four positions of the chord of four notes, the 7th, 5/6th, 3/4/6th and 2d.

Ex. 28.

THE FIVE-SIXTH CHORD.

Ex. 29.



5/6

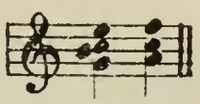
The 5/6 chord consists of the 1st, 3d, 5th and 6th, and is the second position of the 7th chord; it resolves like the 6th chord. In the resolution of this chord the bass ascends to the next note, upon which the common chord is formed. It can be used upon any note of the scale, and the root is always a 3d below the bass.

THE THREE-FOUR SIXTH CHORD.

The 3/4/6 chord consists of the 1st, 3d, 4th and 6th, and is the 3d position of the 7th chord. It can resolve either up to the 6th chord, or down to the common. It can be used upon every note of the scale, and the root is always a 5th below the bass.

1st resolution up to the 6th.

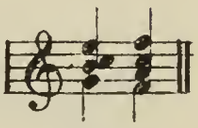
Ex. 30. a.



3/4/6—6

2d resolution down to the common.

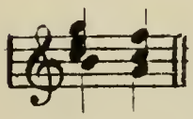
Ex. 30. b.



3/4/6—5

THE SECOND CHORD.

Ex. 31.



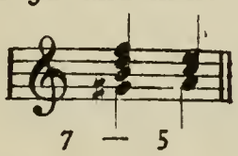
2 — 6

The 2d chord consists of the 1st, 2d, 4th and 6th, and is the 4th position of the 7th chord. The bass moves down to form the 6th chord, and the root is always the 7th below the bass.

THE DIMINISHED SEVENTH CHORD.

The diminished 7th is formed by taking the 7th chord of the major dominant—consisting of major 3d and minor 7th—and raising the bass a semitone. The root to the diminished 7th is found a major 3d below the bass. It resolves by the bass moving up a semitone. The 3d ascends, the 5th and 7th descend, the resolution forming the common chord. The 9th chord, as well as the diminished 7th, has its inversions, but in the case of the 9th chord the tones of the inversions must be kept distant from each other; if not, they will come into such close proximity that they will interfere with each other.

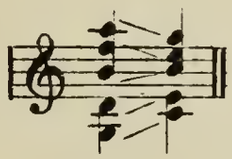
Ex. 32.



7 — 5

CHORDS OF FIVE NOTES.

Ex. 33.



9 — 5

The 9th chord consists of five notes. It is formed of the 7th chord with the 9th added, and consists of the 1st, 3d, 5th, 7th and 9th.

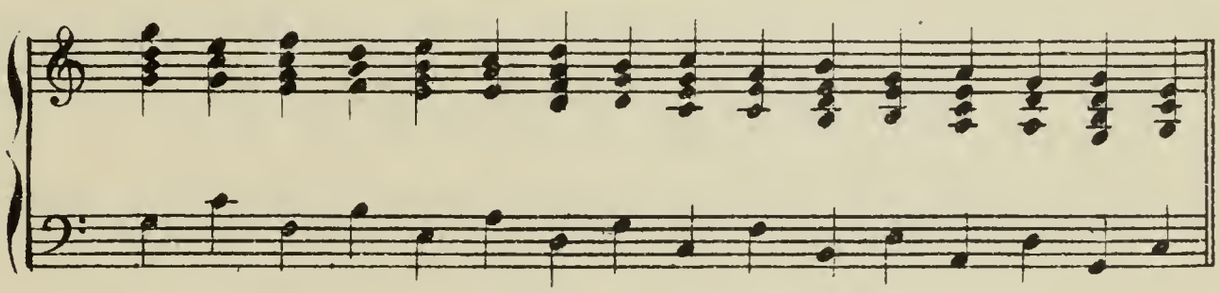
The 1st and 5th are invariable; the 3d, 7th and 9th are variable. It is usually formed on the dominant, and resolves like the 7th chord into the Tonic. The 9th and 7th descend; the 3d and 5th ascend.

SEQUENCE.

A Sequence is a series of given chords with their resolutions, and it is most frequently used in the progression of the diatonic scale.

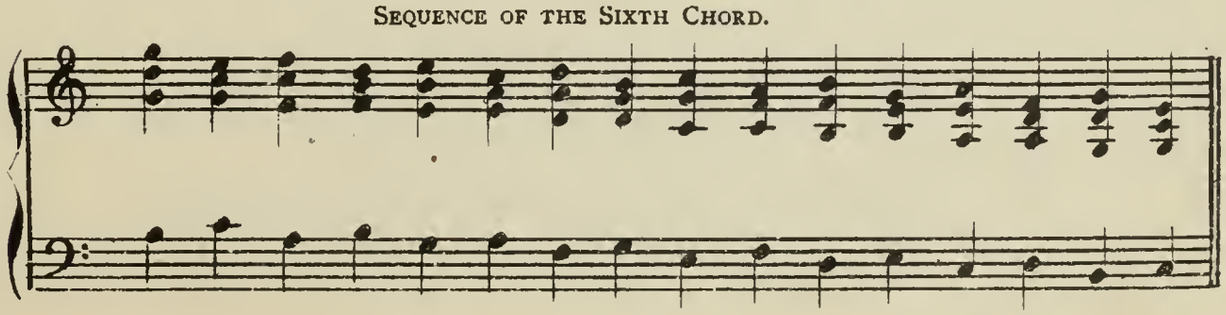
SEQUENCE OF THE COMMON CHORD.

Ex. 34.a



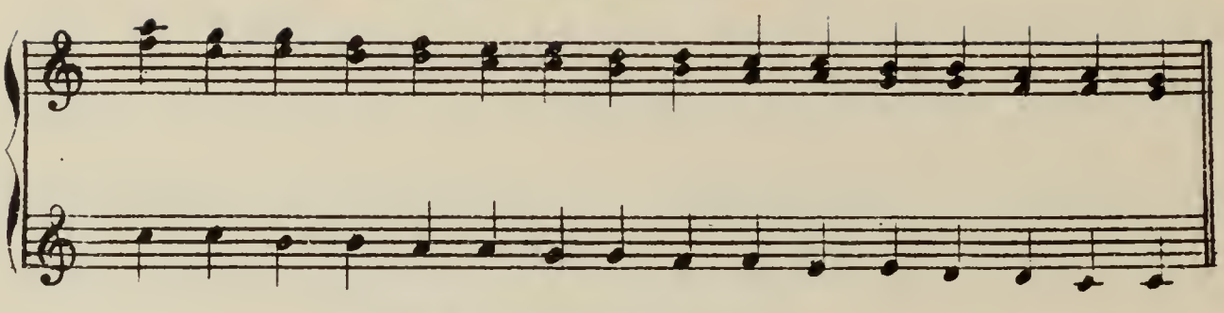
SEQUENCE OF THE SIXTH CHORD.

Ex. 34.b



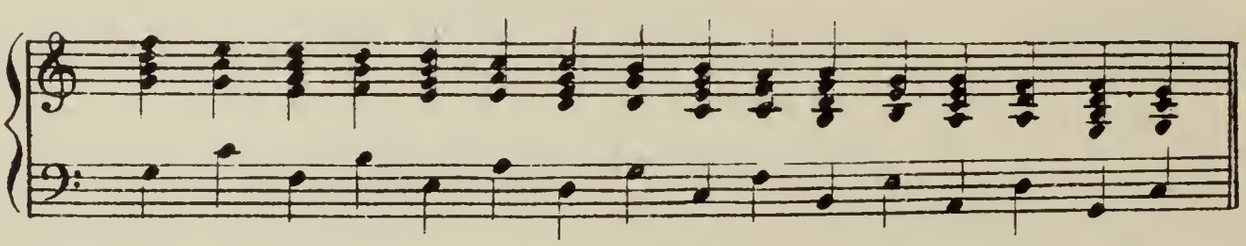
SEQUENCE OF THE FOUR-SIXTH CHORD.

Ex. 34 c.



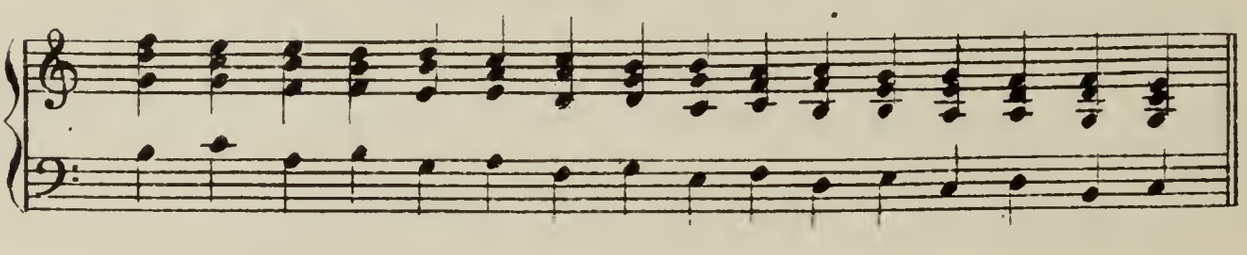
SEQUENCE OF THE SEVENTH CHORD.

Ex. 35.



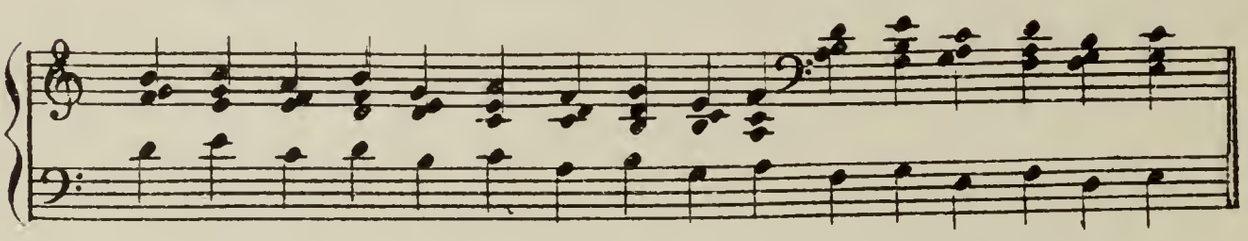
SEQUENCE OF THE FIVE-SIXTH CHORD.

Ex. 36 a.



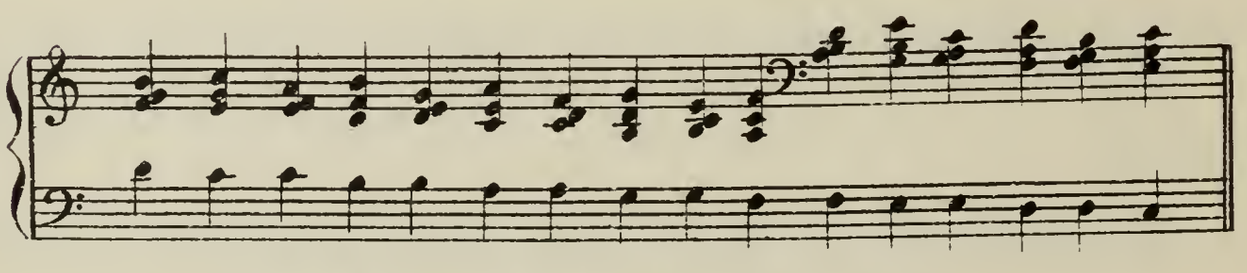
SEQUENCE OF THE THREE-FOUR-SIXTH CHORD UP TO THE SIXTH.

Ex. 36 b.



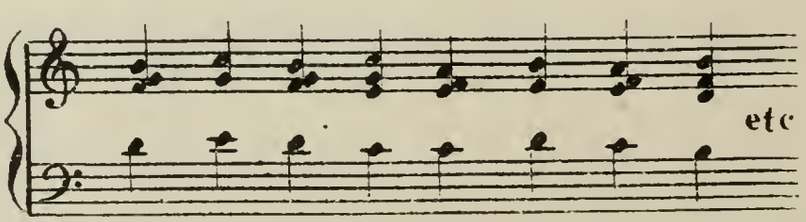
SEQUENCE OF THE THREE-FOUR-SIXTH CHORD DOWN TO THE COMMON.

Ex. 36 c.



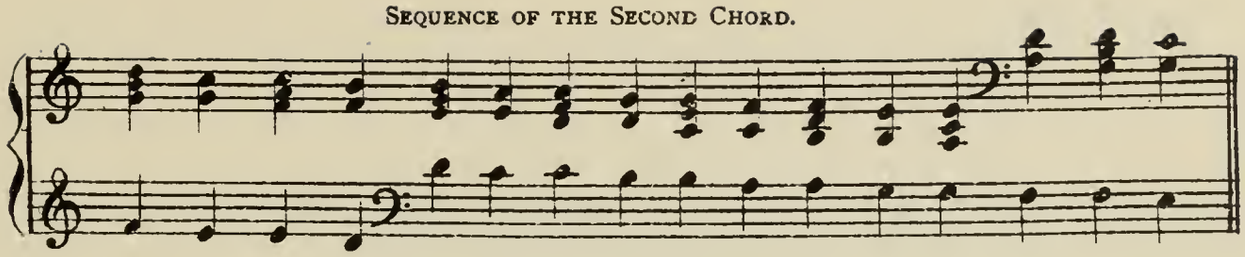
COMBINED SEQUENCE OF THE THREE-FOUR-SIXTH CHORD.

Ex. 37.



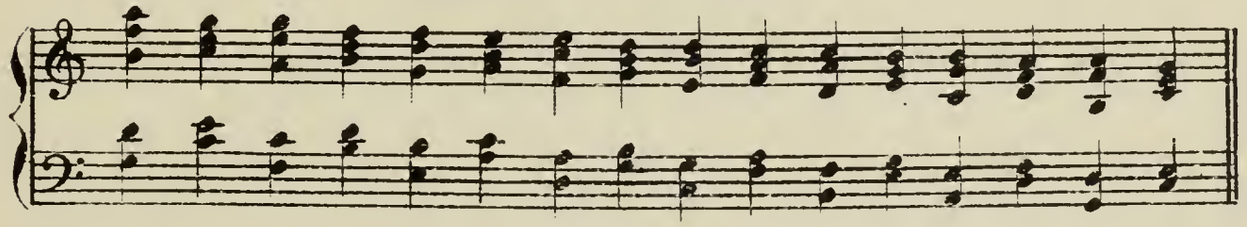
SEQUENCE OF THE SECOND CHORD.

Ex. 38.



SEQUENCE OF THE NINTH CHORD.

Ex. 39.



CADENCE.

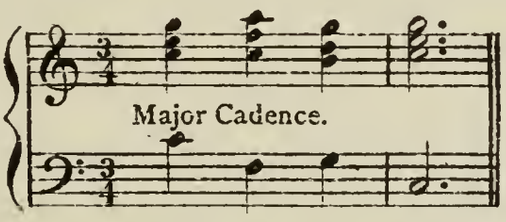
Cadence—a fall.

A Cadence is a progression through the tonic, dominant and subdominant, and through the relative tonic, dominant, etc., of any given scale back to the original tonic.

A major cadence proceeds as follows:

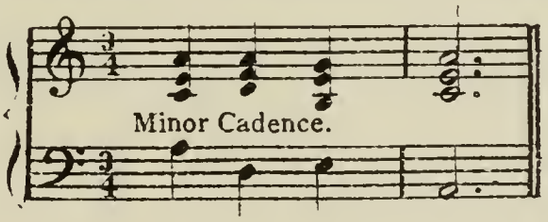
Major tonic, major subdominant, major dominant, back to major tonic.

Ex. 40. a



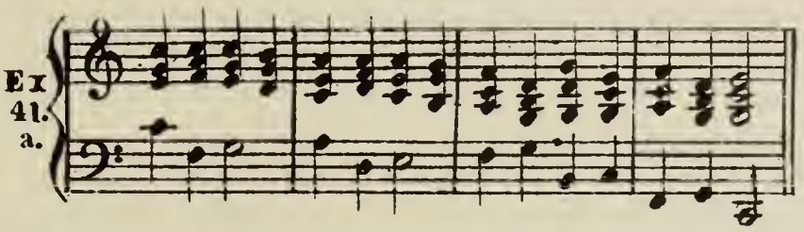
A minor cadence proceeds from minor tonic, through minor subdominant, minor dominant, back to minor tonic.

Ex. 40. b



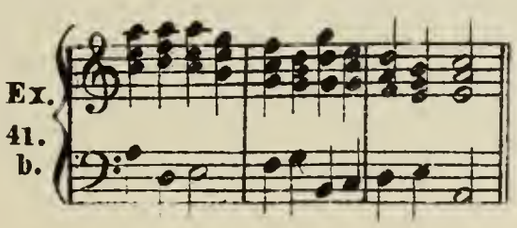
A cadence, properly interspersed with the relative minor, proceeds in the following manner from the major tonic through the major subdominant and dominant; (interruption) relative minor tonic, minor subdominant and minor dominant; (interruption) major subdominant, major dominant, leading note, major tonic, major subdominant, major dominant and tonic.

Ex. 41. a.



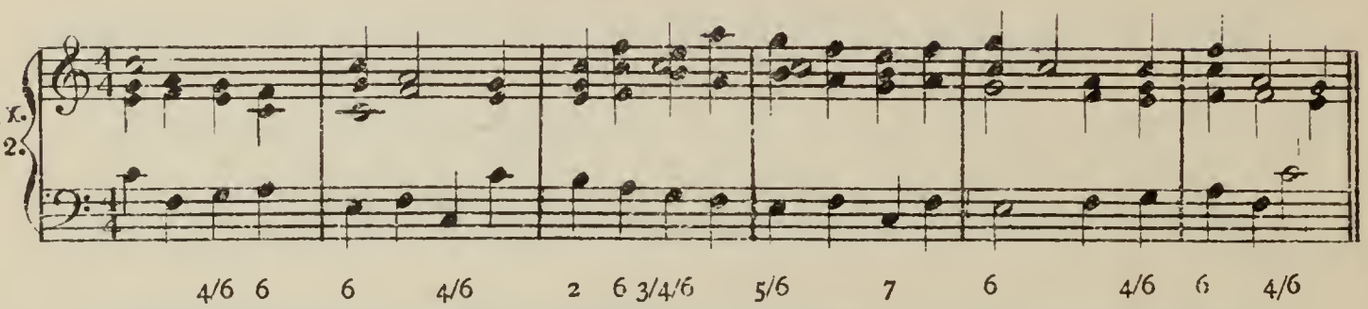
A minor cadence proceeds from the minor tonic, through the minor subdominant, minor dominant; (interruption) relative major subdominant and dominant, leading note and major tonic; (interruption) minor subdominant, minor dominant and minor tonic.

Ex. 41. b.



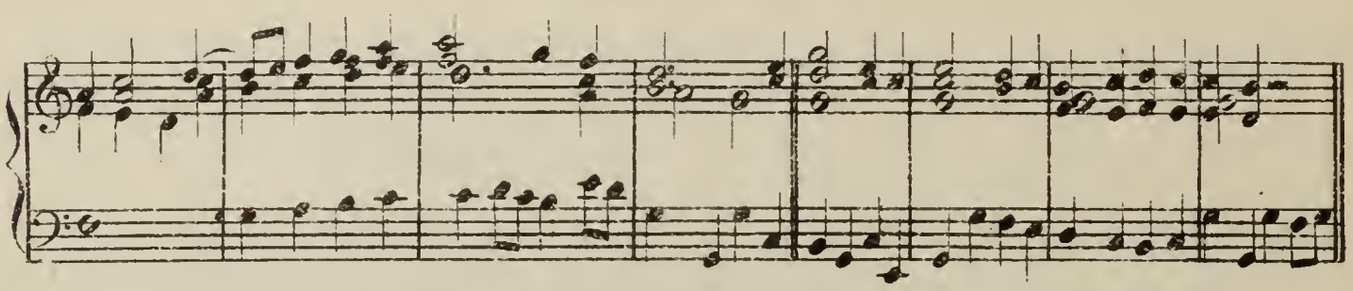
In order to form a full and complete cadence, all the chords of three and four notes, with their fundamental and derivative basses, must be used.

Ex. 12.



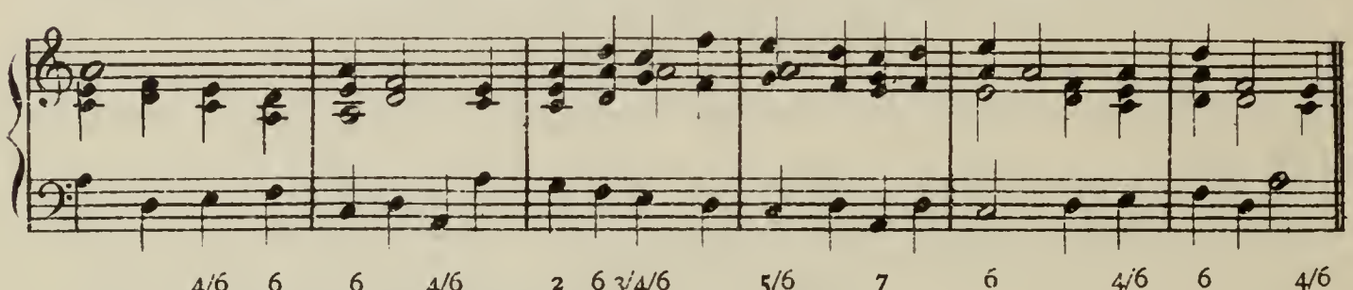
4/6 6 6 4/6 2 6 3/4/6 5/6 7 6 4/6 6 4/6

Motion from major tonic to major subdominant. The fundamental bass moving alternately between C and F.



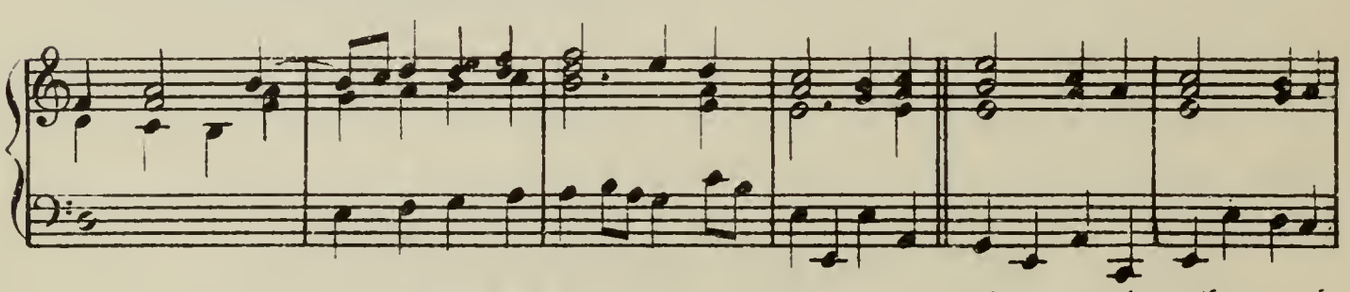
7 5/6 6 5/6 3/4/6 2 6 2 7 9 6 6 4/6 2 6 3/4/6 5/6 4/6

Motion from major subdominant to major dominant. From major dominant to major tonic.



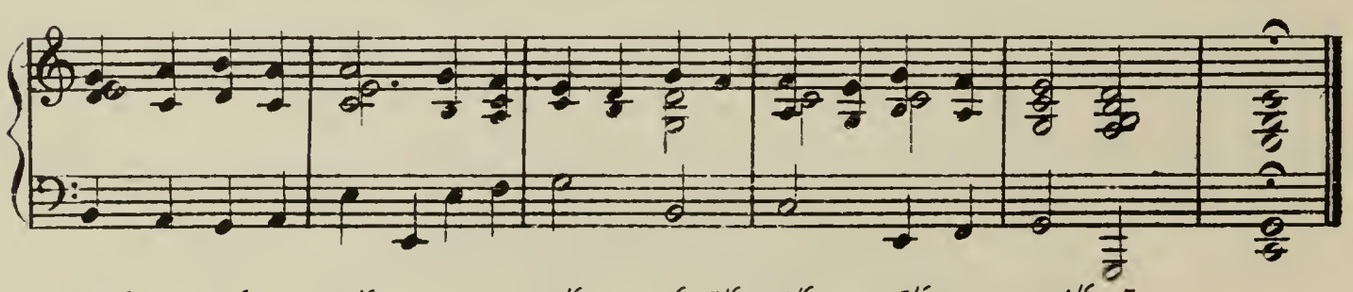
4/6 6 6 4/6 2 6 3/4/6 5/6 7 6 4/6 6 4/6

From minor tonic to minor subdominant.



7 5/6 6 5/6 3/4/6 2 6 2 7 4/6 6 6 4/6 2 6

From minor subdominant to minor dominant. From minor dominant



3/4/6 5/6 4/6 4/6 6 5/6 4/6 5/6 4/6 7

to minor tonic. Coda, major subdominant, major dominant to major tonic.

The bass of this cadence serves merely as a model. Any combination of the seven tones of a scale can be used to form basses upon which to construct cadences. It must, however, be borne in mind that chords usually resolve when the bass moves; when the bass remains on the same tone, the chord of that bass can be changed at pleasure, viz., 5/6 into 3/4/6, then into 2 chord; this last, of course, to be resolved into a 6th chord with the descending bass, etc.

RULES FOR FORMING THE CADENCE.

1. Move the bass in contrary motion with the other parts.
2. Retain a note when possible.
3. Avoid consecutive 5ths, octaves, 2ds and 7ths.
4. Never double the bass of the 6th chord in upper parts.
5. The leading note always ascends, and the 7th tone descends in the resolution of the chords.

In order that students be prepared for modulation, which follows, it is necessary that they transpose and thoroughly master the full cadence in all keys, and take it up at any point with perfect ease.

TRANSPOSITION.

To transpose a composition is to place it in a different key from the one in which it is originally written. This, of course, is easier to do in writing than in performing. To transpose skilfully at sight requires a great deal of practice and routine. Transposing can be done in four ways:

1. By reading a different interval.
2. By reading a different signature.
3. By reading in a different clef.
4. By substituting a different tonic, dominant and subdominant.

First. By reading from a different interval, as for example—reading all notes a major third above where they are written, the common chord in C major as the common chord in E major, etc.

Second. By reading different signatures—all *double* sharps will be read *single*, all *single* sharps will be read *naturals*, all *naturals* will be read *flats*, and all *flats* will be read *double* flats, or *vice versa*. For example: Suppose we want to transpose a piece from C♯ major to C♭ major, we must think of it as being without sharps, and perform accordingly.

Third. By reading in a different clef—viz.: Suppose a part is written in C major and we want to transpose it to E♭ major, we may read it in the bass clef, and *mentally* add the signatures; or if wanted in D major, read it in the alto clef and imagine two sharps in the signature.

Fourth. By the substitution of a different tonic, dominant and subdominant—viz.: If we transpose from C major to G major, we take the dominant to C major as the tonic to G major, etc.

MODULATION.

Modulation consists in stepping from one key to another. One cadence can be joined to another, and the connection can be made upon any chord of the cadence, provided the bass of the chord in which you are working belongs also to the cadence to which you desire to pass.

In going from C major to G major, the change can be made upon any note but F♮, because in G major there is an F♯. Starting with the minor dominant to C major (E minor), we can pass into the G cadence, by establishing E minor as the minor tonic to G major.

RELATIVE AND CORRESPONDING MAJOR AND MINOR.

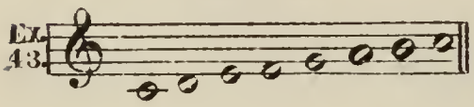
In the minor third below the major keys we find the relative minors, being *relative* because they have the same signatures.

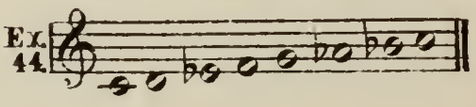
The *relative* minor to C major is A minor, because neither of them has sharps nor flats.

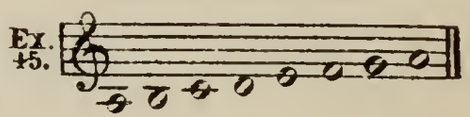
Besides the *relative* minor, every major key has a *corresponding* minor, so called because it has the same keynote or tonic, subdominant and dominant as the major key.

The *corresponding* minor to C *major* is C *minor*, and to A *major* is A *minor*. Thus we see how intimately C *major*, C *minor*, A *major*, and A *minor* are connected.

Major Scale. Corresponding Minor Scale. Relative Minor Scale.

Ex. 43. 

Ex. 44. 

Ex. 45. 

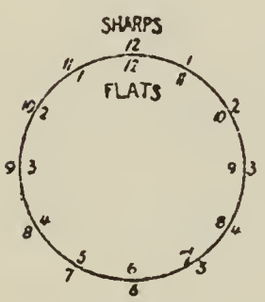
A difference of three exists in the signatures of corresponding majors and minors, increasing (in favor of the minors) in flats, and decreasing in sharps.

For Example—C major has no signature.
C minor has three flats.
F major has one flat.
F minor has four flats, etc.
C♯ major has seven sharps.
C♯ minor has four sharps.
F♯ major has six sharps.
F♯ minor has three sharps, etc.

We already know that the majors control the signatures of the *relative* minors, and that the *corresponding* majors and minors agree in name only.

It can be seen that by means of the following enharmonic circle of 5ths, flat and sharp signatures can be carried as high as twelve, and the subtraction of either from the ultimatum (12) leaves the remainder the signature of the enharmonic scale, viz.: D♭ major (5 flats) subtracted from twelve, causes the remainder (7 sharps) to become the signature of the enharmonic scale in sharps, which is C♯ major (7 sharps).

Ex. 44.



In going over the different major and minor keys, we readily observe how sharps and flats can be enharmonically connected. This gives us our first glimpse of modulation, in the following manner—by changing the variable intervals, as *lowering* the 3d of the major common chord—C E G *to* C E♭ G; or by *raising* the 3d of the minor common chord—A C E *to* A C♯ E, which forms the connection of the same tonic, subdominant and dominant, and this is what we call corresponding major and minor.

But we may also make a modulation by changing the invariable intervals—viz.: The 1st, 2d, 4th and 5th. Change the first interval by raising the tonic in C major, which gives us C♯ E G. The C♯ indicates that we are out of the key of C major, and the E♮ shows we are not in the key of C minor. C♯ represents the leading note to D, consequently the chord must resolve either into D major or D minor.

By *lowering* the tonic of C minor—C E♭ G—we have C♭ E♭ G. G is considered the leading note to A♭, hence the chord resolves into the 6th chord on C♭, which is the second position of the common chord of A♭ minor.

By raising the 5th of the common chord on C major, we have C E G♯. G♯ is the leading note to A, therefore, this chord resolves into the 6th chord on C, which is the second position of the common chord on A minor.

By *lowering* the 5th of C minor—C E♭ G,—we have C E♭ G♭. In this case the bass tends *downward*, the chord belongs to C♭, and thus we have a modulation from C minor to C♭ major.

In changing 2ds and 4ths, we most naturally select chords in which 2ds and 4ths occur.

By *raising* the *2d* tone in the chord F G B D, G ascends to G♯, and we have F G♯ B D. The G♯ ascends to A, the bass descends, and we form the 4/6 chord on E, which is the third position of the common chord on A minor.

By *lowering* the *2d* tone of the 2d chord on E—E F♯ A C, we have E F♮ A C, which we know resolves into the 6th chord on D—D F B, which is the second position of the common chord on the leading note to C major.

By *raising* the *4th* in the 2d chord on C—C D F A, we sharpen the F and have C D F♯ A, and the chord resolves into the 6th chord on B, or second position of the common on G.

By *lowering* the *4th*—C D F♯ A, we have C D F♮ A, and the chord resolves into the 6th chord on B, the leading note to C major.

It must here be understood that the minor keys have minor 3ds, 6ths and 7ths, and that we do not theoretically admit the raising of the 6ths and 7ths of the minor scales, for by raising the 6ths and 7ths we enter the corresponding major key.

As the fashion now is, we generally use E major as dominant to A minor, but we might just as well use the *corresponding* minor dominant to the major tonic, which is as logical—G minor to C major, etc.

The fanciful raising of the 6th and 7th of the minor scale is but a mixing of the corresponding major key with that of the relative minor.

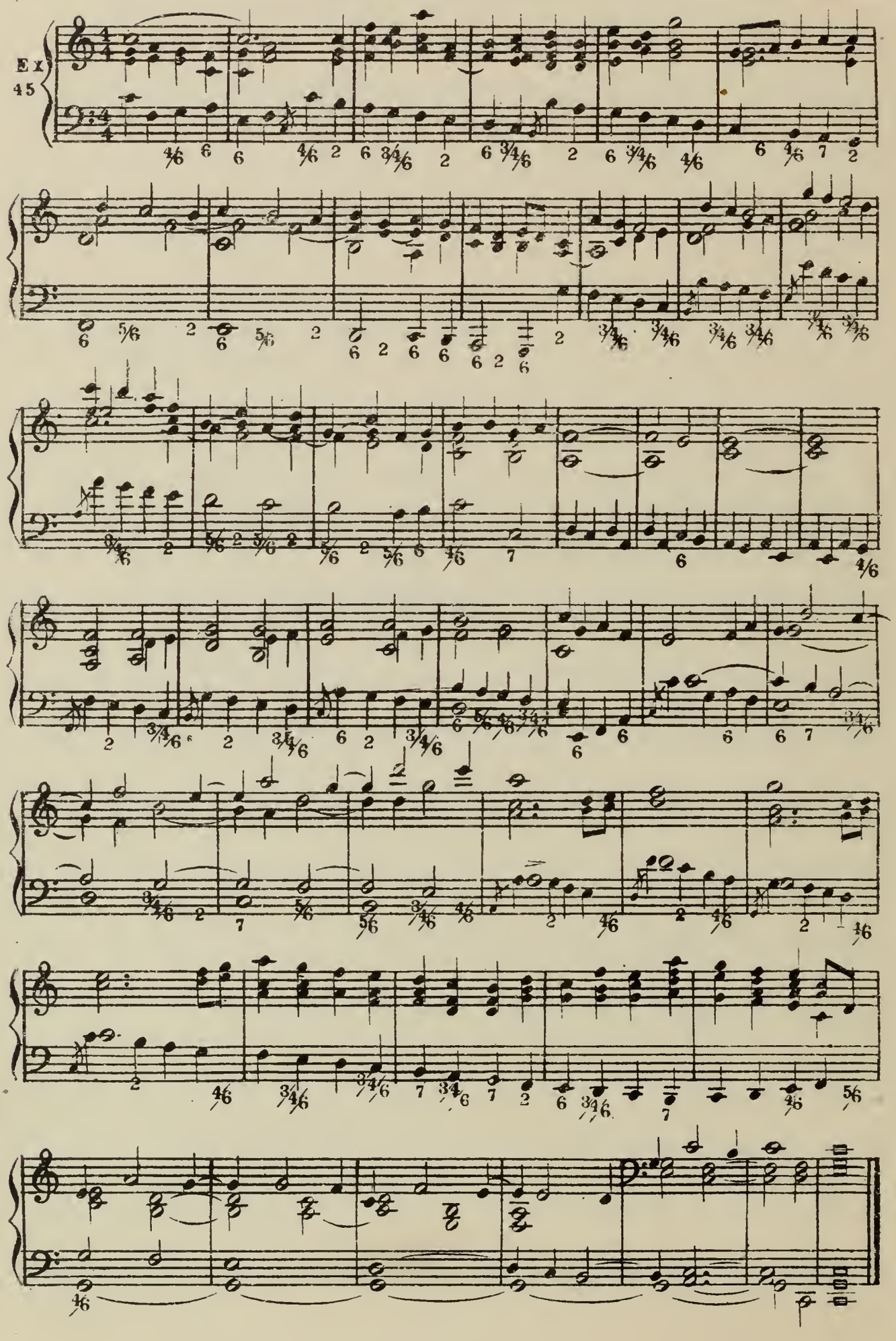
The student must know by heart the complete cadence in every key. This is easiest done by playing it on the piano, the bass note with the left hand and the remaining three notes of the chord with the right hand. When this knowledge is acquired to perfection, the mixing of the cadences of different keys, or Modulation, will easily be learned.

Rules.

1. Always keep the *root* in mind, as that indicates the key of the cadence.
2. Keep the bass moving.
3. Remember the signatures.
4. Think of chords as consisting only of 3 or 4 notes.

The following is an example of a free cadence, strictly in C major.

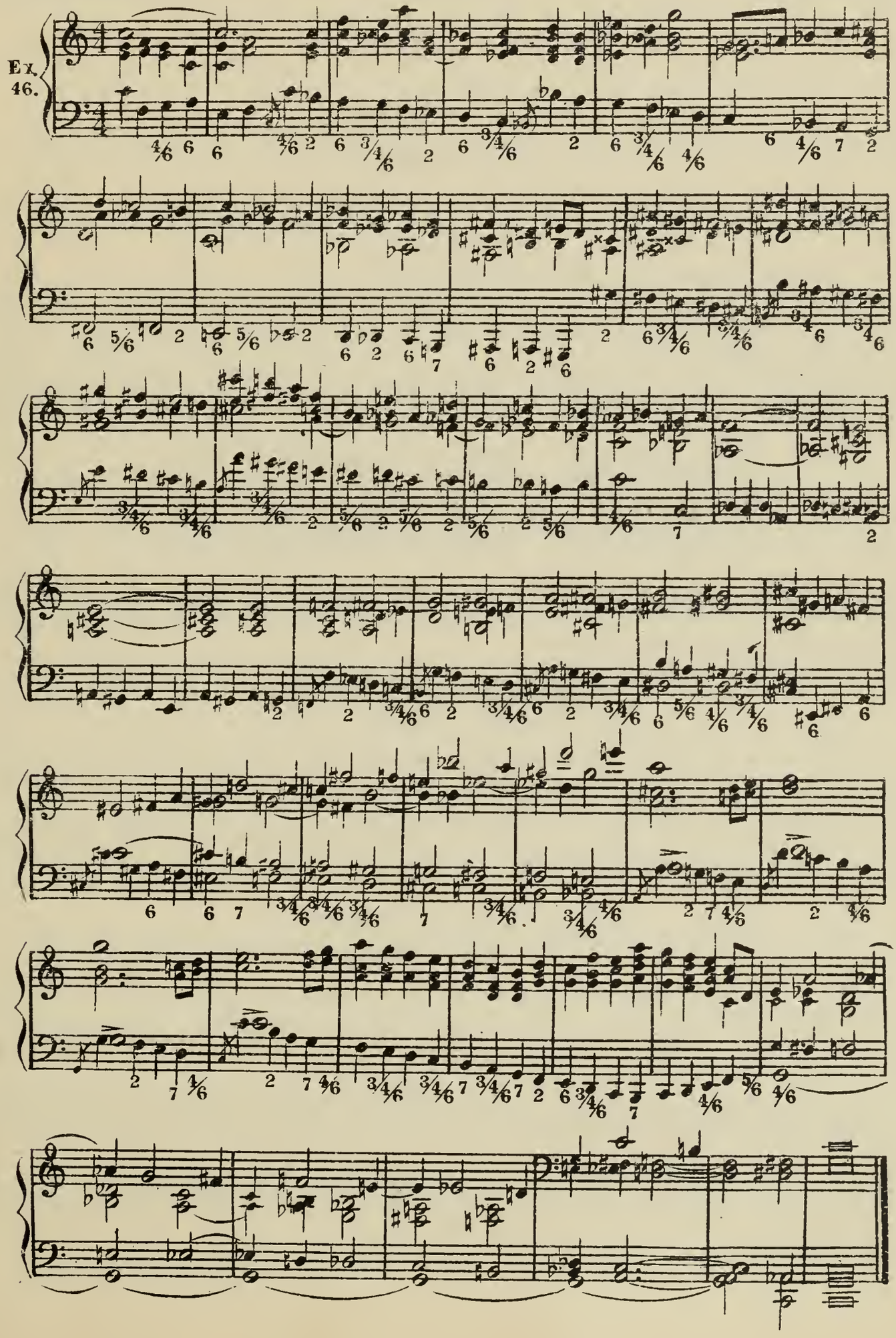
FREE CADENCE IN C MAJOR. ASGER HAMERIK.



In order to show how modulation can be made, the figured bass of the foregoing cadence has been preserved throughout, and modulations produced by raising and lowering the variable and invariable intervals.

MODULATION. ASGER HAMERIK.

Ex. 46.



PART THIRD.

COUNTERPOINT.

SIMPLE COUNTERPOINT.

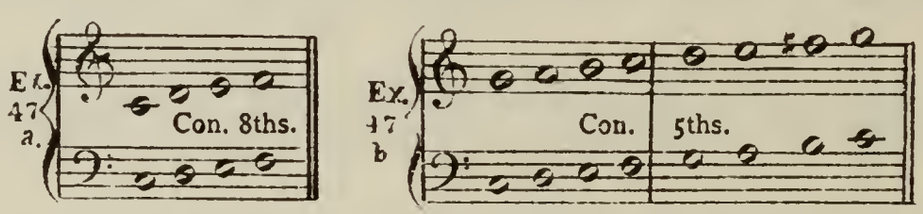
FIRST ORDER—NOTE AGAINST NOTE.

General Rules.

1. Counterpoint must begin and end with a concord.

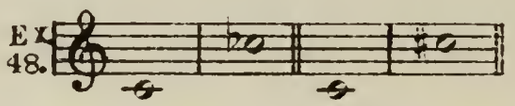
2. Parts should progress by perfect or imperfect concords, avoiding unisons because they produce no harmony. As a general rule, it is safe to retain those notes which can be retained in going from one chord to another.

3. Consecutive octaves are not allowed because the parts progress in the same scale, and thus do not form harmony; consecutive 5ths are not allowed because the parts progress in two different scales.



4. The tritone is the augmented 4th; or inverted, the imperfect 5th.

5. No tone can be resolved into its diminished or augmented *octave* without producing a false relation, and thus making a harsh effect.



6. In writing counterpoint with modulations, the most natural keys to be used are those the tonics of which form part of the proposed scale. The exception to this rule is the key of the leading note, which must be avoided because it has not a *perfect* 5th.

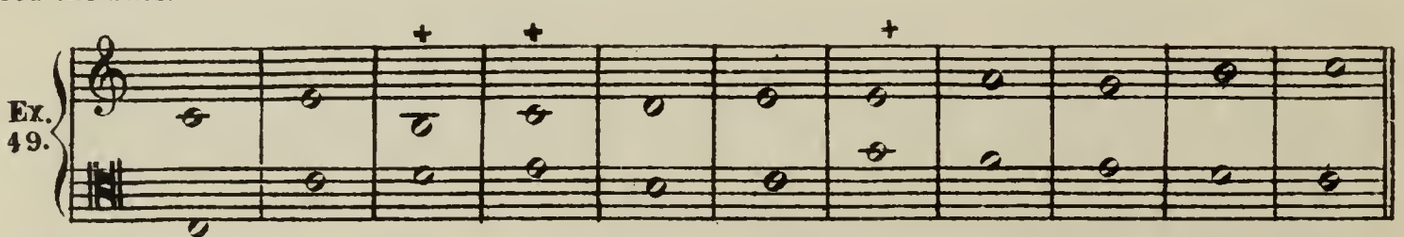
7. Subjects for counterpoint can be composed of any combination of the seven tones of the scale, either in diatonic or harmonic motion, or both, provided the subject begins and ends with the tonic of the key selected.

TWO PART SIMPLE COUNTERPOINT.

Special Rules.

1. Two part simple counterpoint—note against note—is the strictest kind; it must begin and end with a perfect concord.

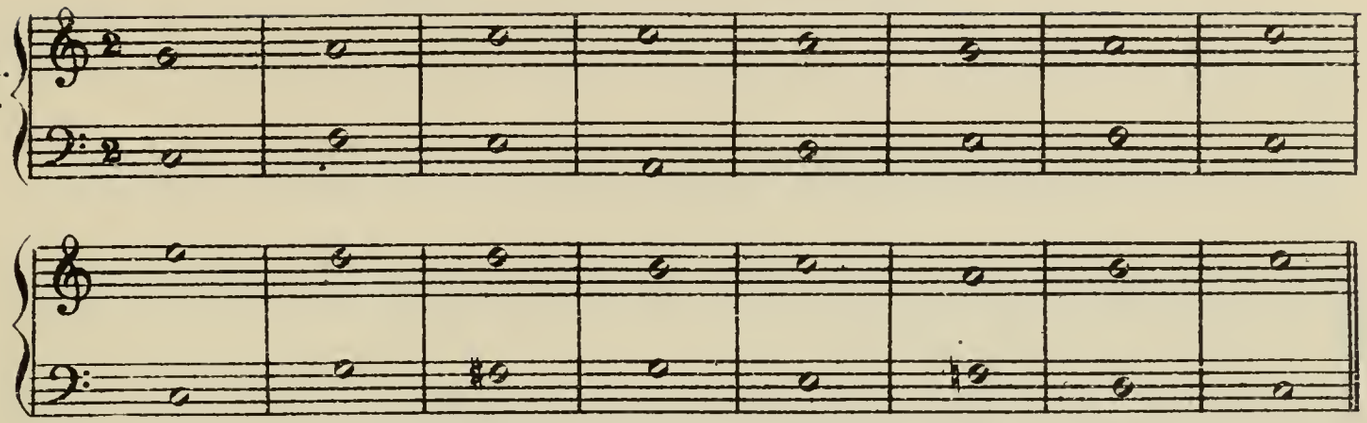
2. The parts may occasionally cross each other; in this case the lowest part is always considered the bass.



3. Seconds, fourths and sevenths are, of course, strictly prohibited.

EXAMPLE IN TWO PART SIMPLE COUNTERPOINT.

Ex. 50.



THREE PART SIMPLE COUNTERPOINT.

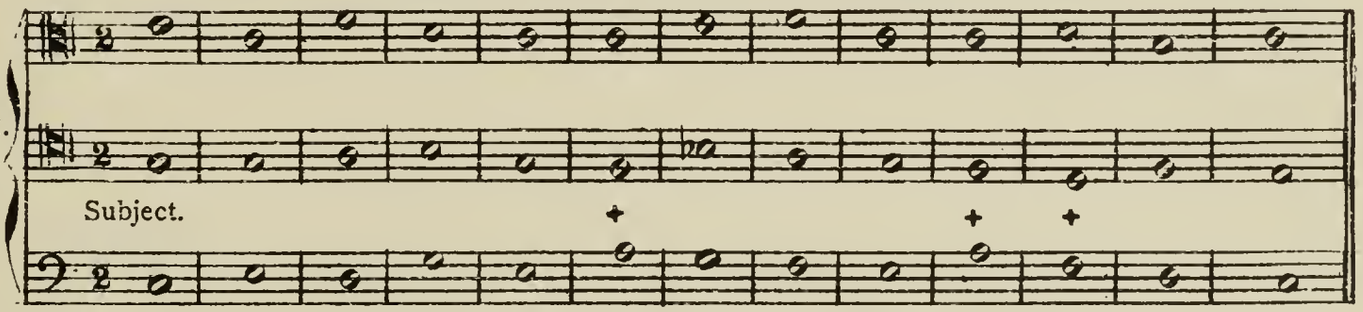
Special Rules.

1. In three part simple counterpoint—note against note—the harmony should be complete in each bar. However, it may sometimes be necessary to double one of the parts.

2. In three part simple counterpoint the doubling of the 3d should be avoided, and also avoid doubling the bass of the 6th chord. If any doubling be necessary, the octave or the 5th should be preferred. Since the scale has been well tempered, the 5th has lost some of its intensity, or completeness, but still it forms a more satisfactory interval than the third.

EXAMPLE IN THREE PART SIMPLE COUNTERPOINT.

Ex. 51.



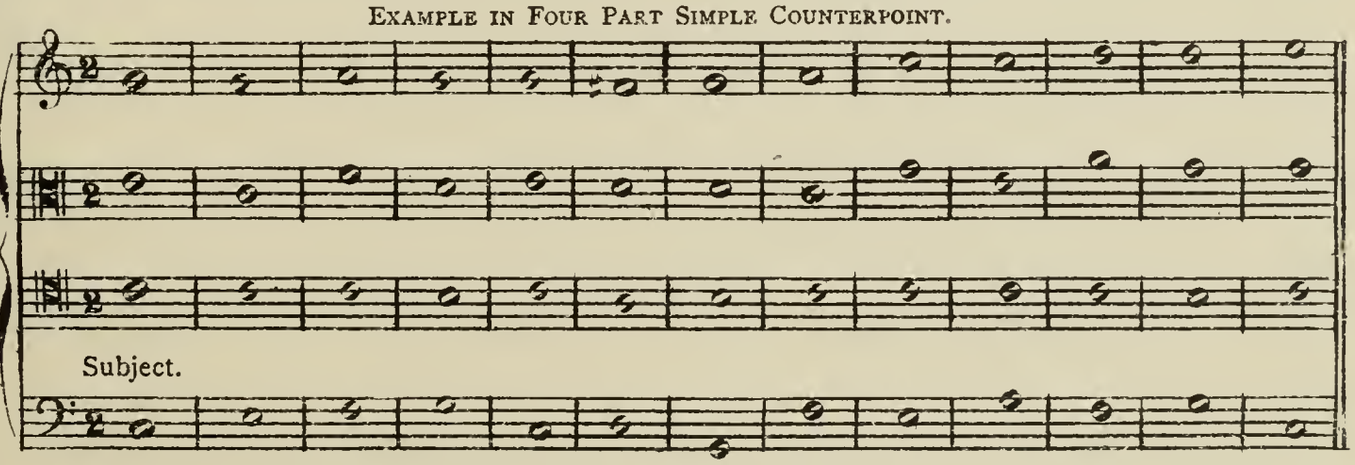
FOUR PART SIMPLE COUNTERPOINT.

Special Rules.

1. In four part simple counterpoint—note against note—it will be necessary to double one of the notes of the common chord, which note should be the octave. The doubling of the 3d should be avoided, because the 3d is the note which points out the nature of the chord, and if this note be doubled, it weakens the effect of the octave and the 5th; it may, however, be used to produce certain effects.

EXAMPLE IN FOUR PART SIMPLE COUNTERPOINT.

Ex. 52.



2. The bass of the 6th chord, formed upon the 3d of the scale, is so prominent that the doubling of it should be avoided; but if employed, it should be given to the soprano, and next in order to the tenor, but *rarely* to the alto.

3. The parts should be kept at appropriate distances from each other. If the two lower parts progress at the distance of an octave from the two upper parts, it will produce a dull and heavy effect. The more the parts are dispersed, the more feeble the effect. The best results are produced by keeping the parts as close as possible, but so conducted as not to interfere with each other.

FIVE, SIX, SEVEN, EIGHT, OR MORE PARTS SIMPLE COUNTERPOINT.

Special Rules.

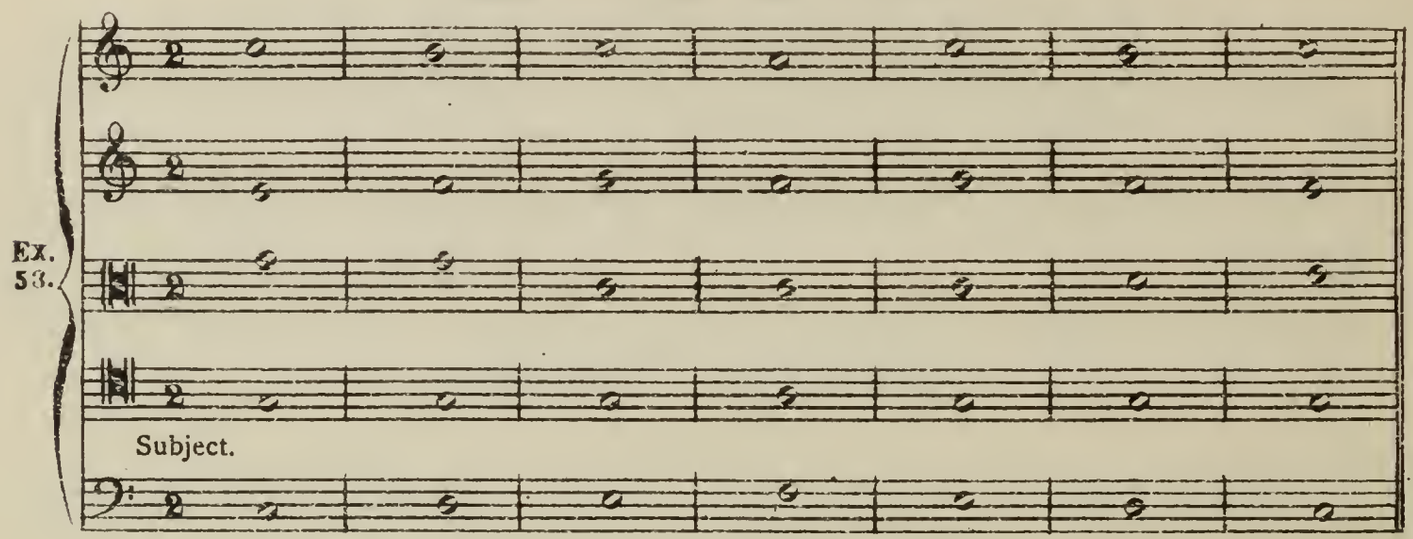
1. In simple counterpoint—note against note—of more than four parts, unisons, as well as two consecutive perfect 5ths by *contrary motion* are tolerated. Also in *similar motion*, two consecutive 5ths, if one be perfect and the other imperfect.

2. In simple counterpoint of seven or more parts, two parts may proceed by contrary motion from the octave to the unison, or *vice versa*, and consecutive 2ds, 7ths, and imperfect 5ths are tolerated if well covered.

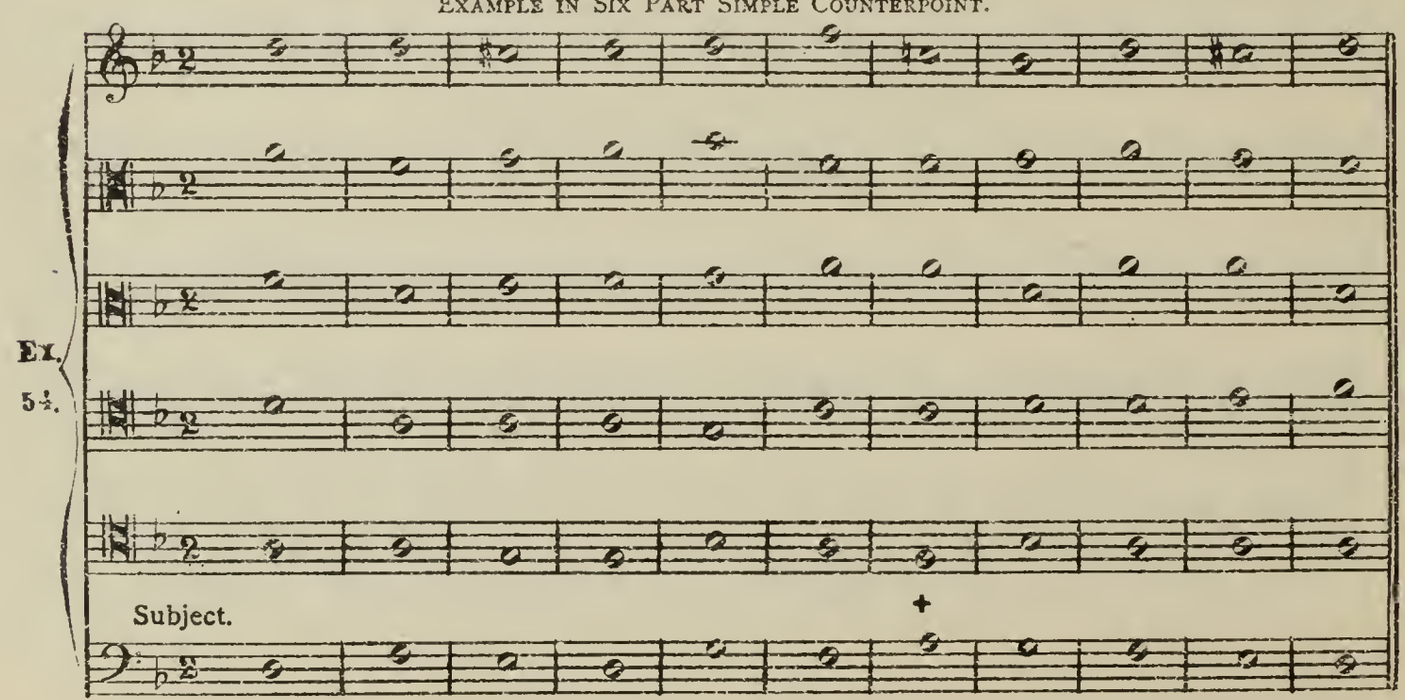
3. Simple counterpoint of eight parts may be treated in two different ways, either as one choir of eight voices, or two choirs of four voices each. In the latter case, the two choirs should be combined in such a way as to alternately interrogate and respond, each choir to produce a complete harmony.

4. In simple counterpoint of many parts the concords should never have suspensions of the 2ds, but of the 9th, and if unisons are unavoidable, it is best to introduce them in the unaccented part of the bar. In Marpurg's works an example of 96 voices in 24 choirs will be found.

EXAMPLE IN FIVE PART SIMPLE COUNTERPOINT.

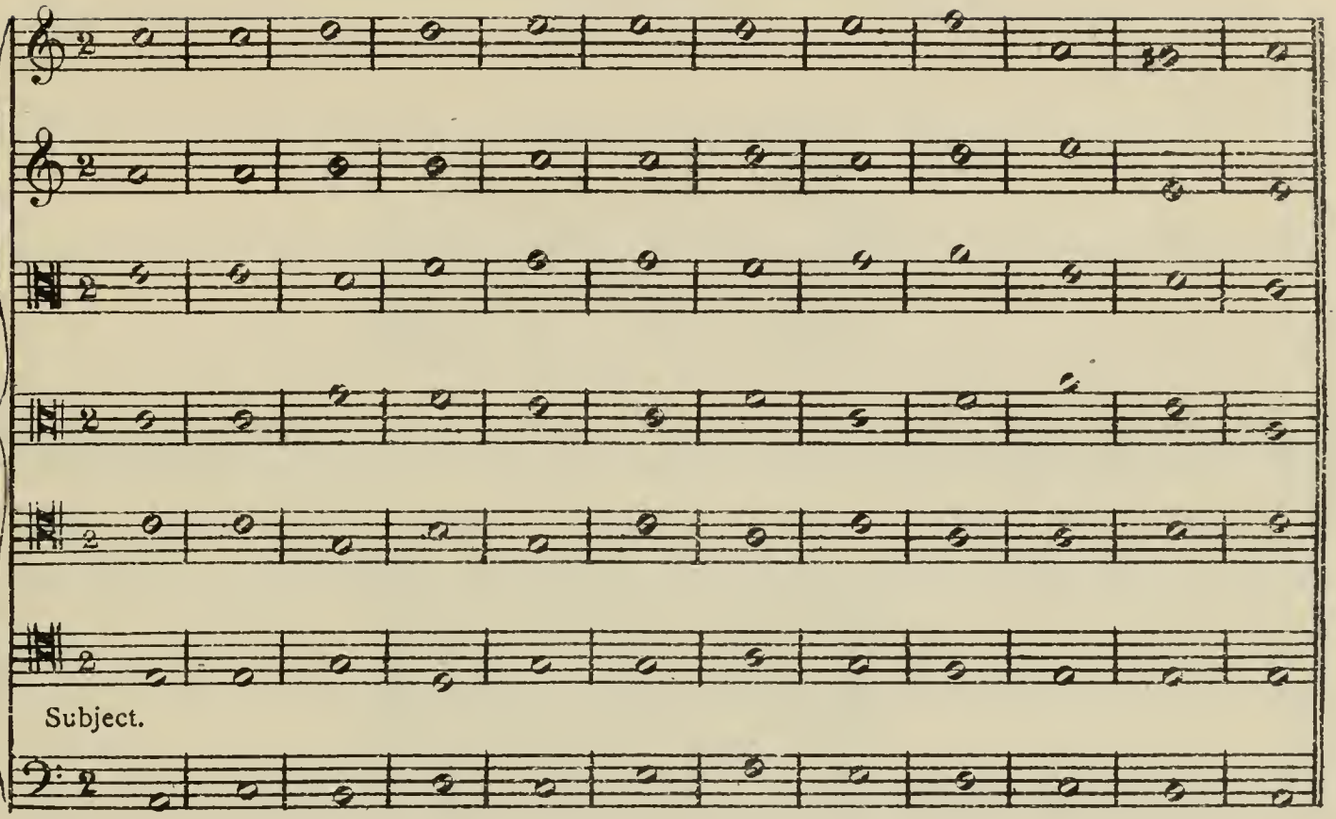


EXAMPLE IN SIX PART SIMPLE COUNTERPOINT.



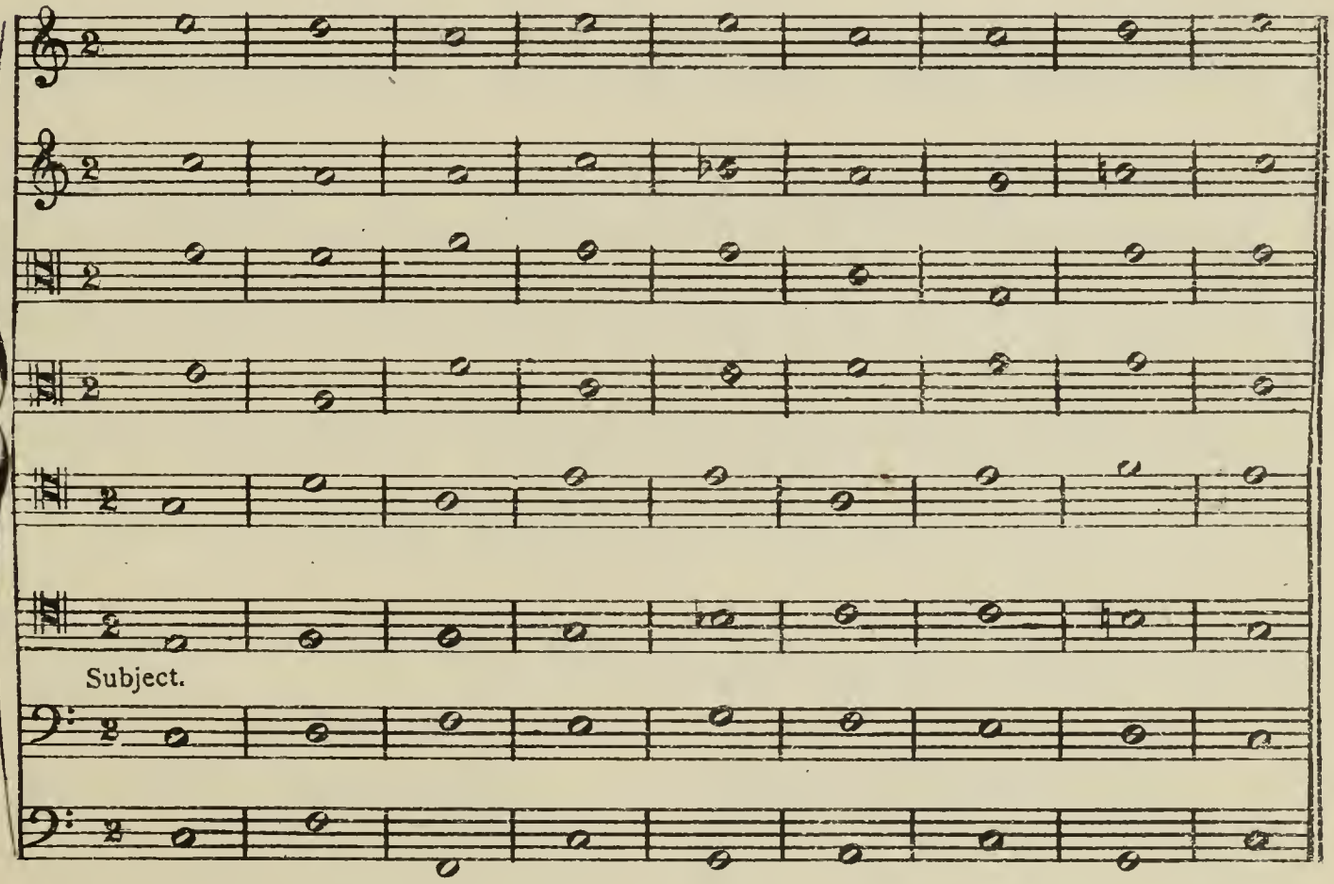
EXAMPLE IN SEVEN PART SIMPLE COUNTERPOINT.

Ex. 55.



EXAMPLE IN EIGHT PART SIMPLE COUNTERPOINT.

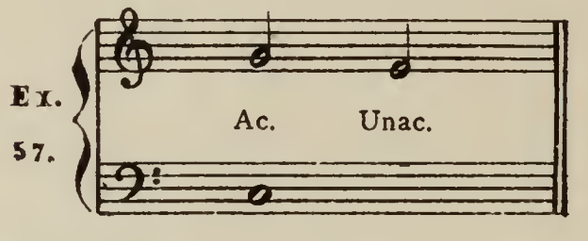
Ex. 56.



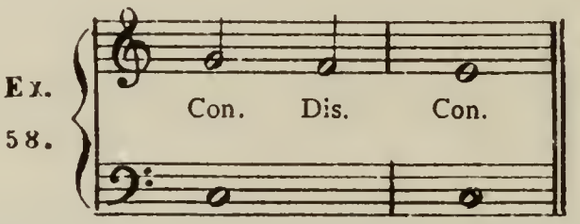
SECOND ORDER—TWO NOTES AGAINST ONE.

General Rules.

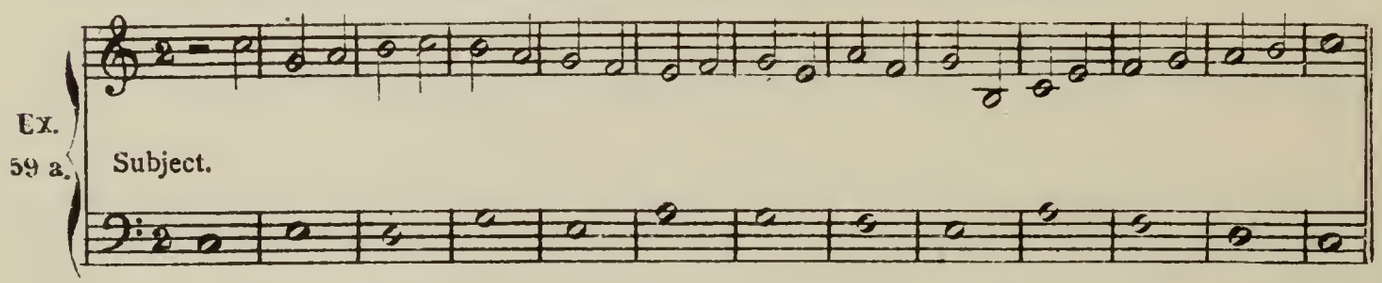
1. The first note of a bar is called the *accented* part of the bar; and the second note, the *unaccented* part of the bar.

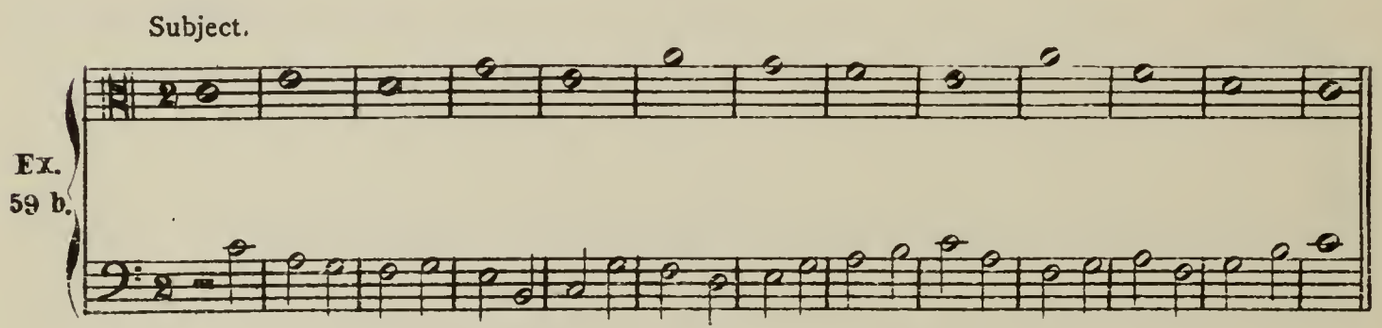


2. The accented part of the bar should be in concord, as a general rule, and the unaccented part may consist of either concords or discords, provided the latter be introduced between concords, and that the motion of the melody be diatonic, in which case it is considered as a passing discord. This rule may occasionally be dispensed with, in order to obtain a more flowing melody.



A rest may be used in the first bar, in the part which forms the counterpoint.

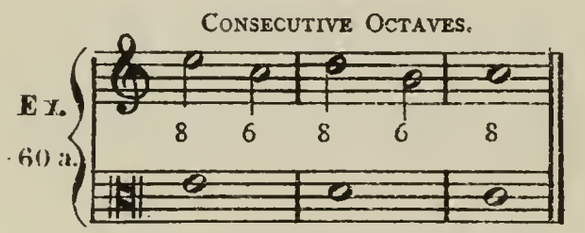




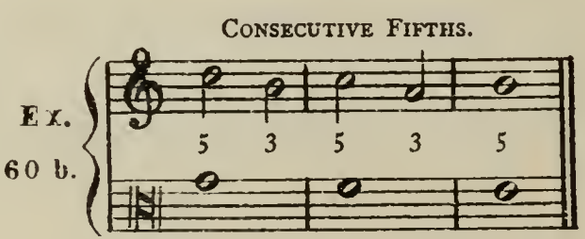
Special Rules for Two Part Simple Counterpoint.

In two part simple counterpoint—two notes against one note—in succeeding bars, consecutive octaves and 5ths in the *accented* parts of the bars, though mitigated by intervening chords in the *unaccented* parts of the bars, must be avoided.

CONSECUTIVE OCTAVES.



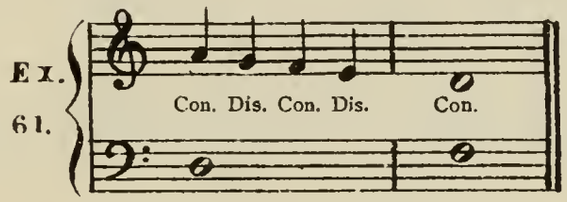
CONSECUTIVE FIFTHS.



THIRD ORDER—FOUR NOTES AGAINST ONE.

General Rules.

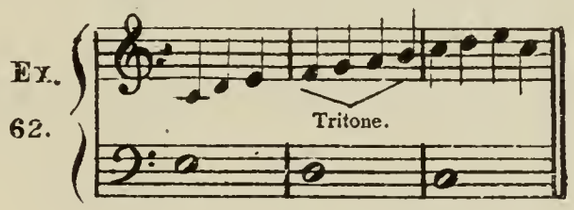
1. The first note should always be in perfect concord; the 2d, 3d and 4th notes alternately in concord and discord, provided the discords fall between two concords.



2. There must not be consecutive octaves or 5ths on the accented part of the bar, in counterpoint of four notes against one.

3. In harmonic motion the notes should always be in concord.

4. In simple counterpoint of four notes against one, a tritone must never be used in harmonic motion, but may be introduced in diatonic motion ascending or descending, as it is then concealed.

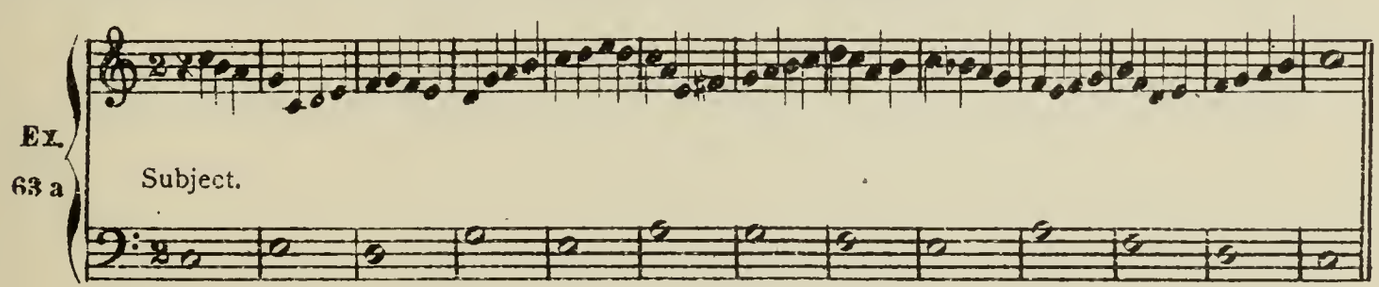


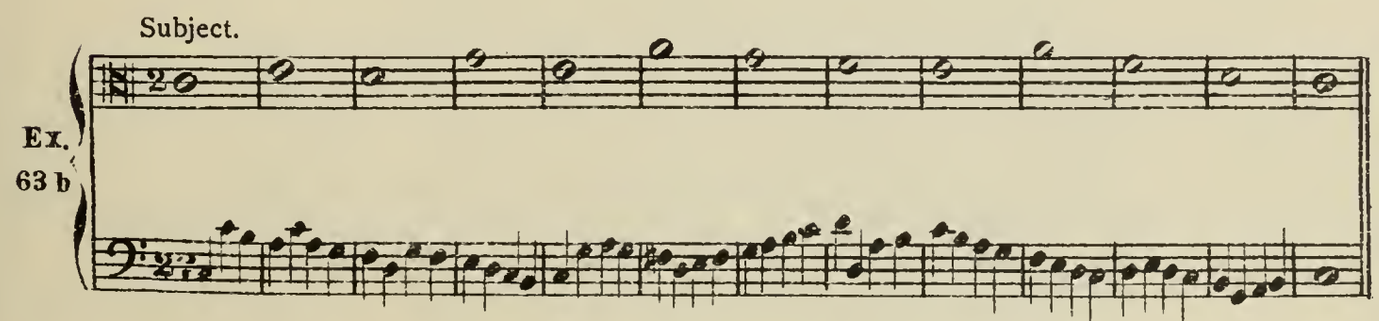
Special Rules for Two Part Simple Counterpoint.

1. In two part simple counterpoint of four notes against one, diatonic motion should be preferred to harmonic.

2. Not any of the four notes against one in two part simple counterpoint avail to save consecutive octaves or 5ths; however, in certain cases contrary motion may be employed.

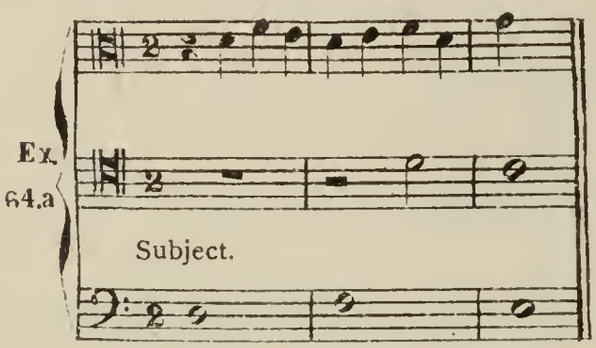
3. In two part simple counterpoint the whole note represents the subject, or in Latin, "*Cantus firmus*," and the other part, of quarter notes, is called the counterpoint.

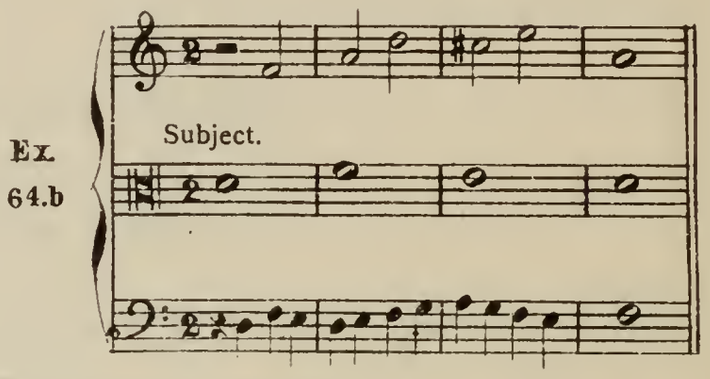




Special Rule for Three Part Simple Counterpoint.

1. In three part simple counterpoint, the subject sets in on the whole notes, in the accented part of the bar, and the counterpoint is formed by half rests followed by half notes or quarter rests followed by quarter notes.





Special Rules for Four Part Simple Counterpoint.

1. In simple counterpoint of four or more parts, consecutive 5ths, 7ths and 2ds are tolerated in contrary motion.

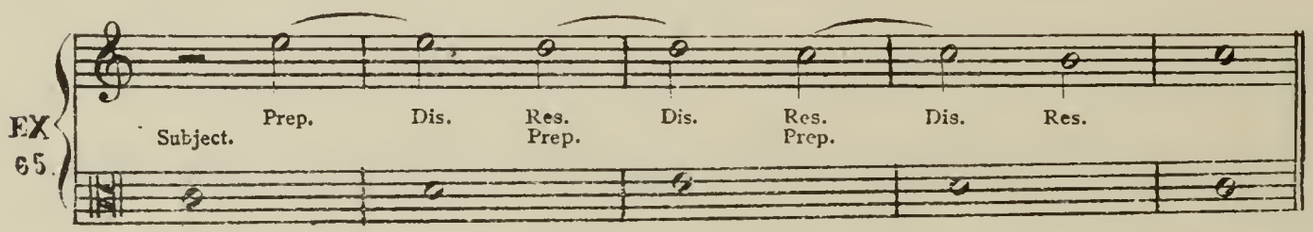
2. It is to be understood that in writing for four voices we may write in two parts, either by letting the two upper and two under voices proceed in unison, or the soprano and tenor proceed alike, and the alto and bass alike. If an example be written in this way, it will be seen that what at first sight appears to be unisons or consecutive octaves, is in reality only a doubling of the parts.

FOURTH ORDER—SYNCOPATION.

General Rules.

1. In syncopation, or suspension of a note, the concords should always fall on the *unaccented* part of the bar, while the accented part may be in concord or discord, at pleasure. If the accented part be in concord, the counterpoint may progress either by diatonic or harmonic motion; if the accented part be a discord, it must descend to a concord, in which case it is called the resolution of a discord.

2. Here also the rule applies, that any discord must be prepared by and resolved into a concord.

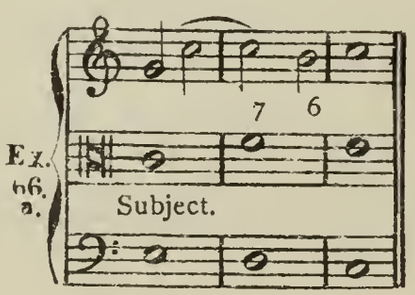


These discords are only suspensions of the concords, for, by omitting the discords in the preceding example, the progression becomes a succession of concords.

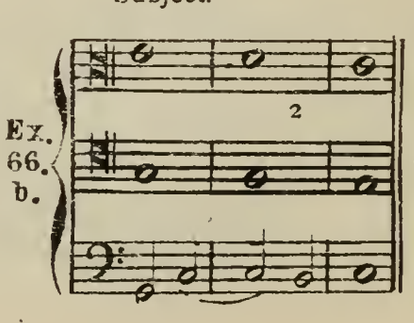
3. Suspensions of the unison, 5th and octave are prohibited.

4. It is well to introduce the syncopation of the 7th in the last bar but one, when the subject lies in the lower part, and the syncopation of the 2d when the subject lies in the upper part.

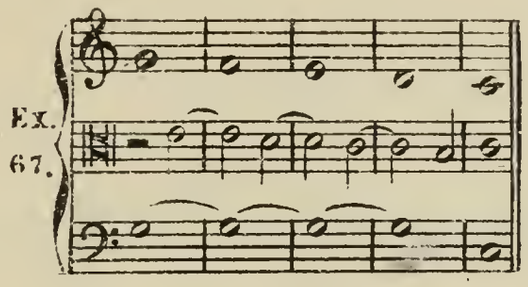
Syncopation of the 7th, with the subject in the lower part.



Syncopation of the 2d with the subject in the upper part.



5. Upon an organ point a discord may be prepared by and resolved into another discord, provided the first discord is prepared by a concord, and the second discord is resolved into another concord.

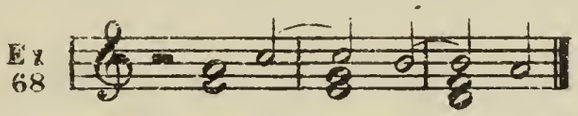


Organ point or pedal note.

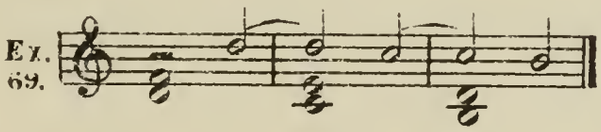
6. If the chord be incomplete on the accented part of the bar, it must necessarily be complete on the unaccented part.

Special Rules for Three Part Simple Counterpoint.

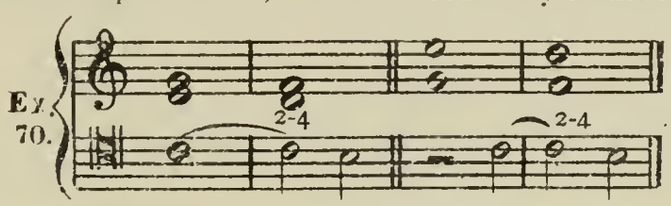
1. In three part simple counterpoint suspension of the 5th is not admitted.



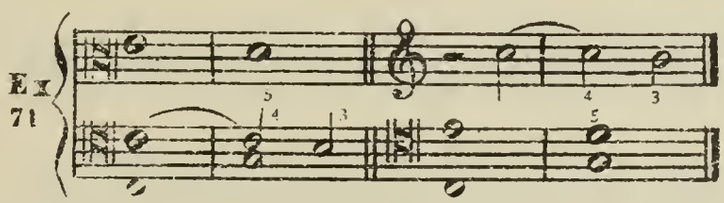
Suspended octaves are harsh, and therefore prohibited.



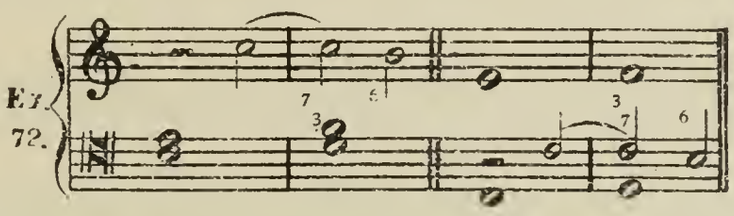
2. In three part simple counterpoint, all the discords may be employed. The discord of the 2d should only be employed with the perfect 4th, and can occur only in the lowest part.



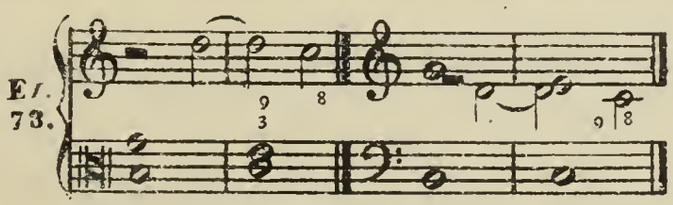
The discord of the 4th should be accompanied by the 5th and resolved into the 3d.



The discord of the 7th should be accompanied by the 3d and resolved into the 6th.



The discord of the 9th should be accompanied by the 3d and resolved into the octave.

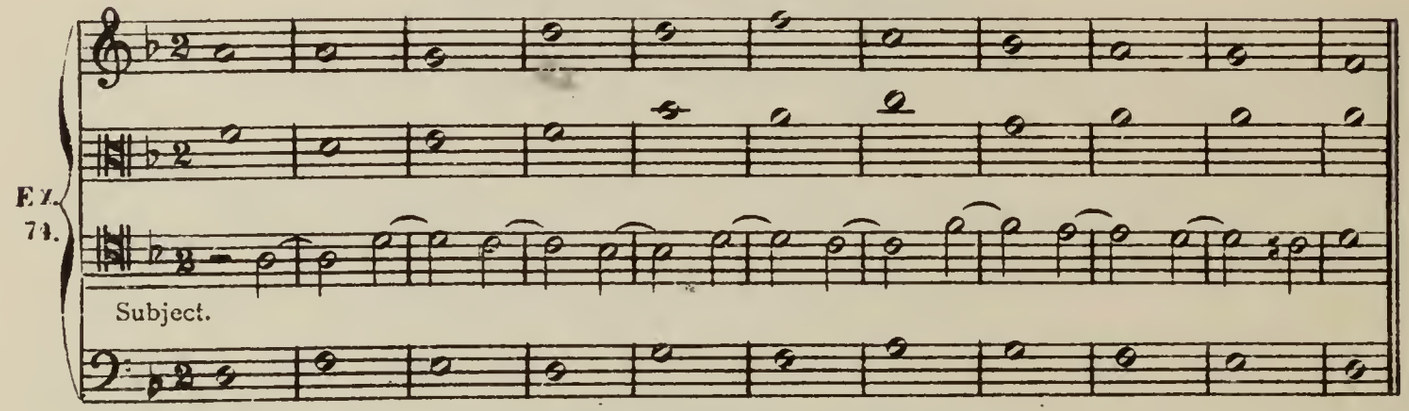


Special Rules for Four Part Simple Counterpoint.

1. In four part simple counterpoint the use of the imperfect 5th is permitted.

2. In four part simple counterpoint the subject sets in first, and if the counterpoint is in half or quarter notes, *it* sets in after a rest of the same value.

EXAMPLE IN FOUR PART SIMPLE COUNTERPOINT.

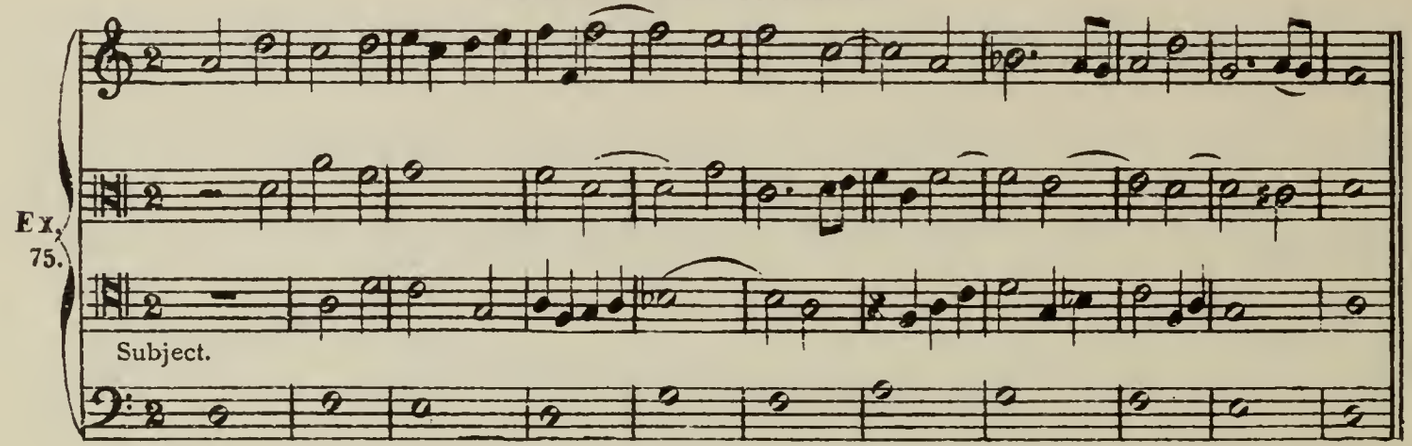


FIFTH ORDER—FLORID COUNTERPOINT.

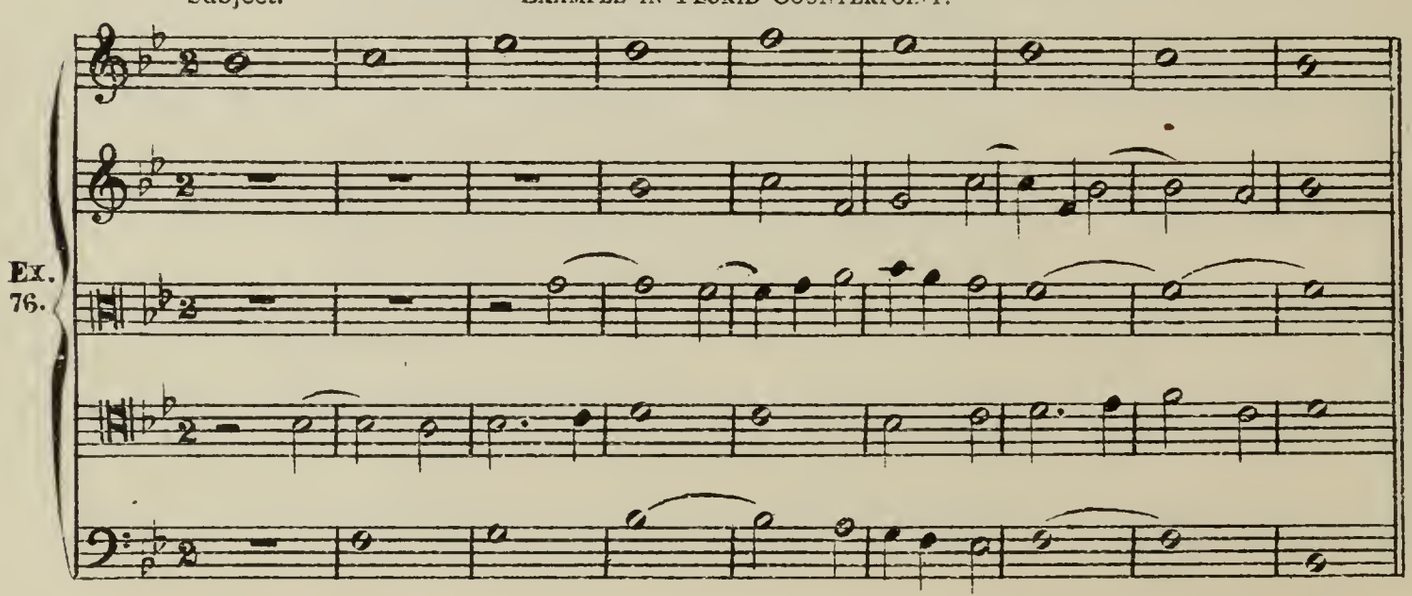
General Rule.

Florid counterpoint is a mixture of one, two or three notes with their dots against one, with or without suspension or syncopation. As a general rule, it is well to have the longest note precede the shortest one.

EXAMPLE IN FLORID COUNTERPOINT.

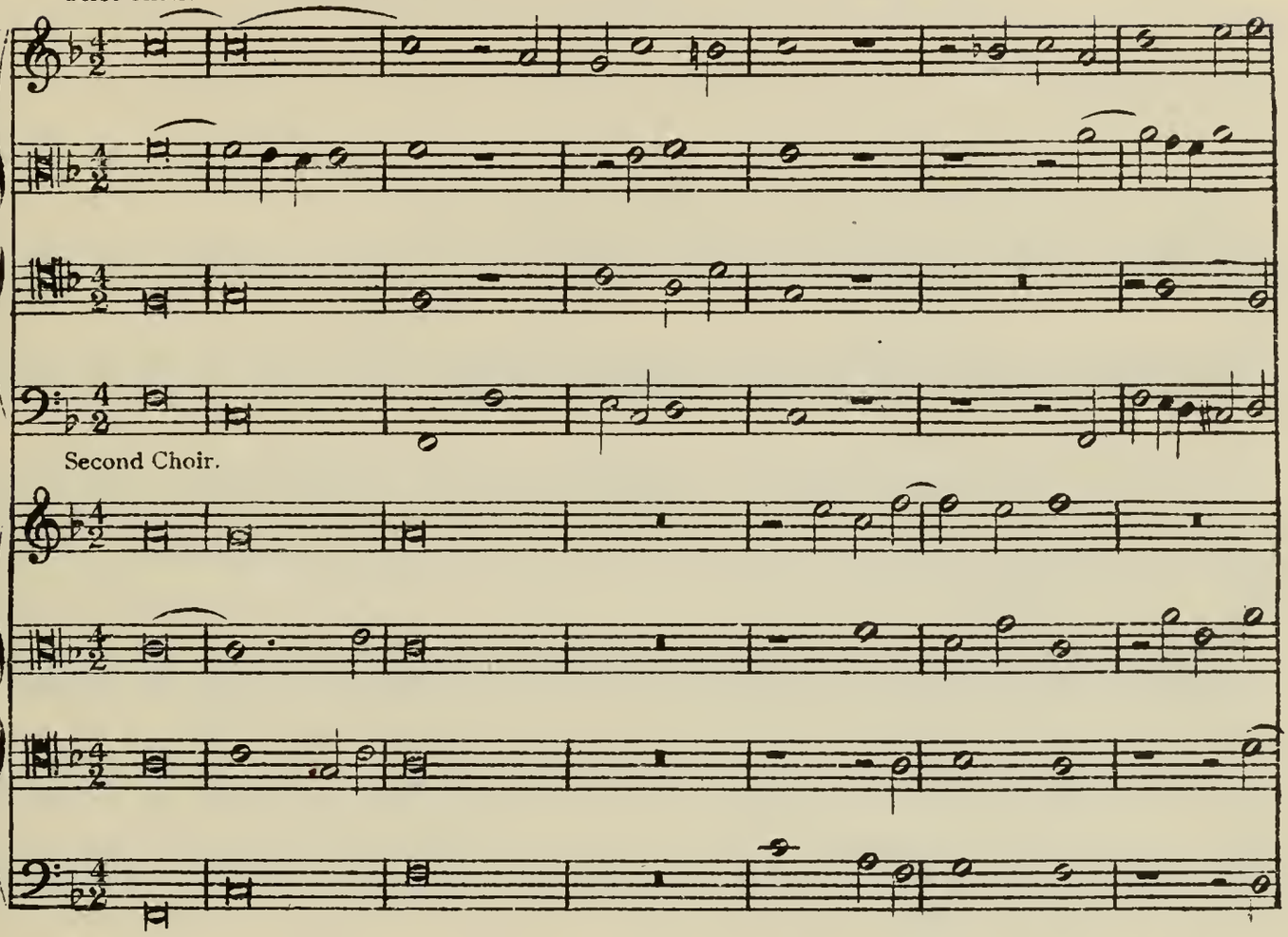


Subject. EXAMPLE IN FLORID COUNTERPOINT.

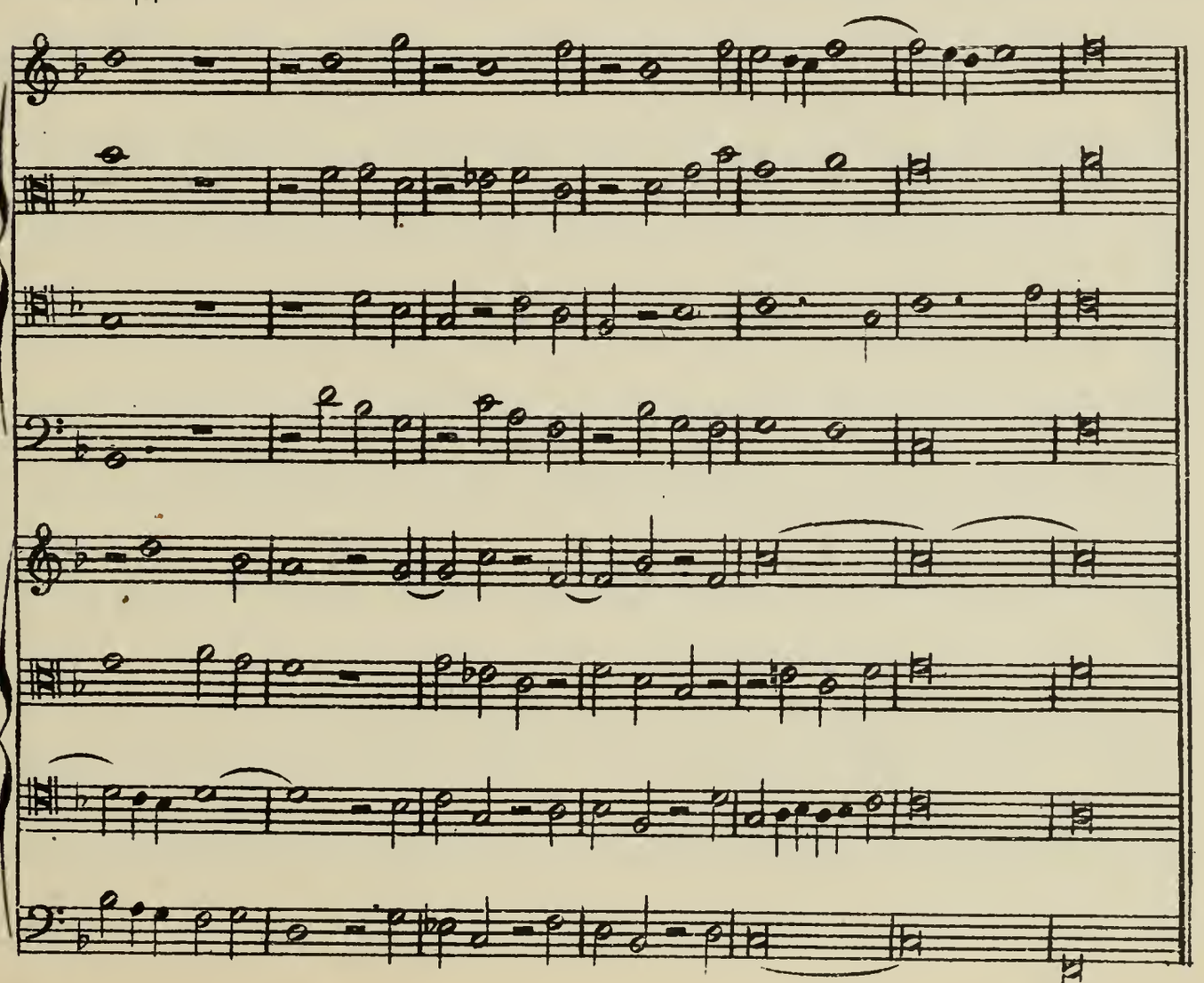


Ex. 77.

First Choir. TWO CHOIKS IN FLORID COUNTERPOINT WITHOUT GIVEN SUBJECT.

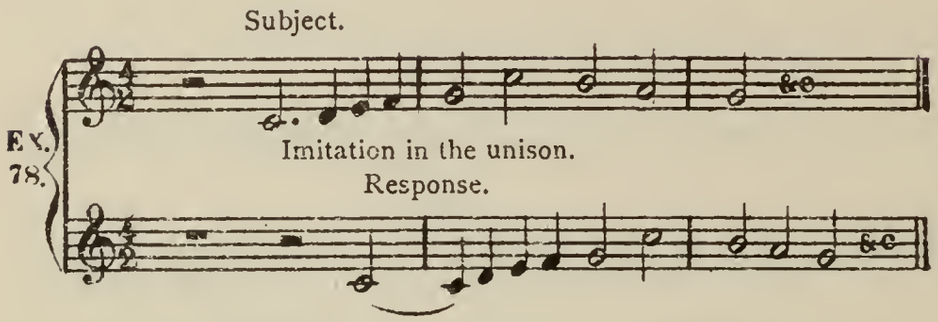


Second Choir.

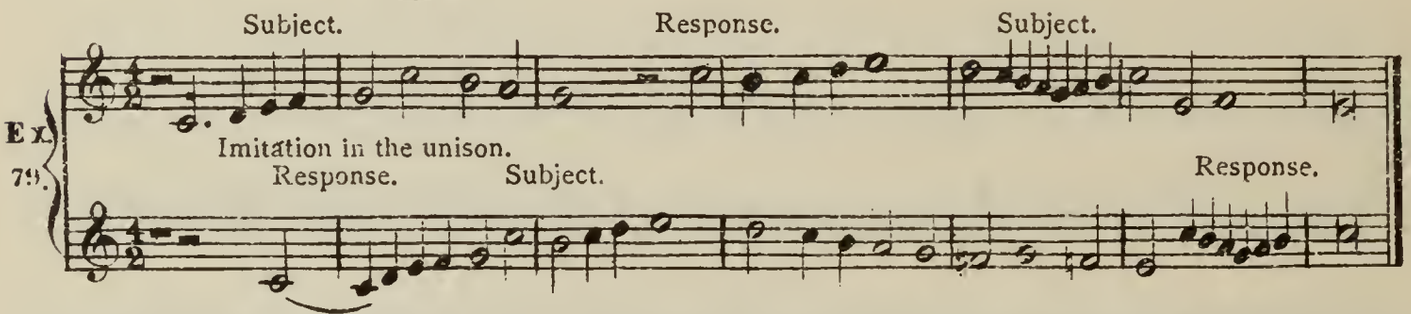


IMITATION.

Imitation consists of a musical subject which is repeated in another part, called the response, after some rests, and in any interval.



The response is not always obliged to answer exactly to the subject throughout the whole extent of subject proposed. It may only imitate a portion, and then propose a new phrase, which in its turn becomes a subject.



Imitation may be restricted or free. If restricted, the response must answer the subject note by note, and this kind of imitation occurs generally in the perfect intervals. Free imitation is when the imitation is not maintained *strictly* between the subject and response, and this kind generally occurs upon the variable intervals. We have three kinds of imitation—similar, contrary, and retrograde, any one of which can be either restricted or free.

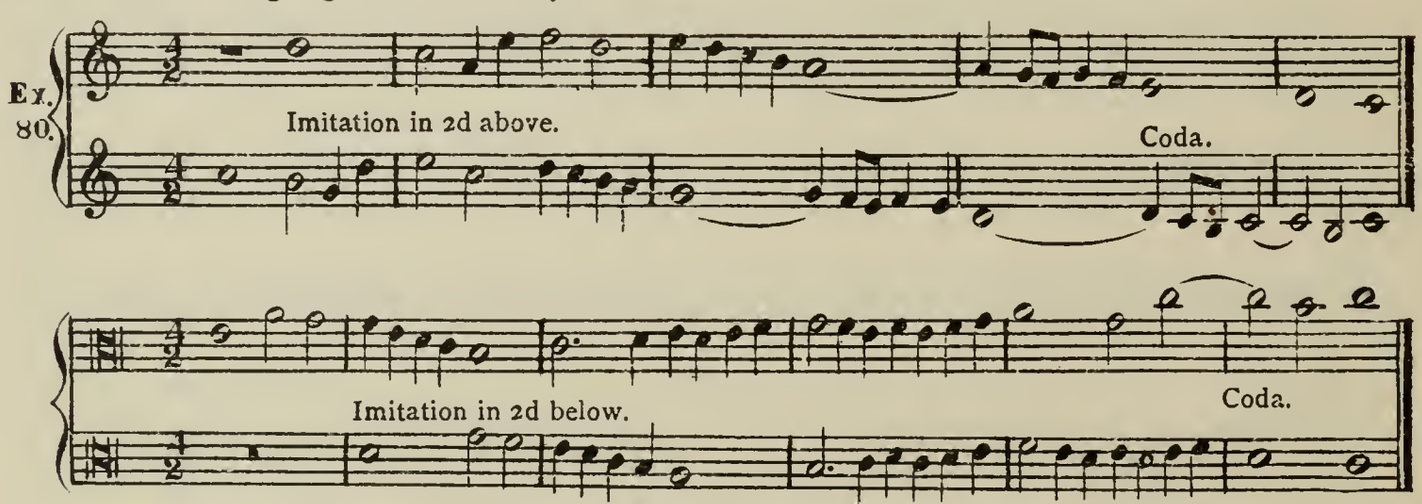
IMITATION IN TWO PARTS.

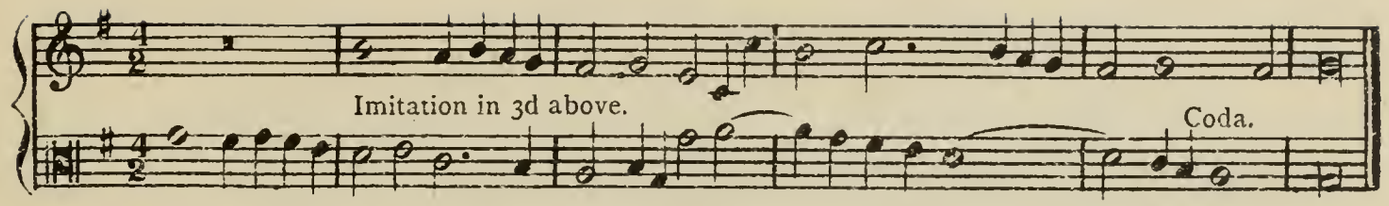
FIRST ORDER—RESTRICTED IMITATION BY SIMILAR MOTION.

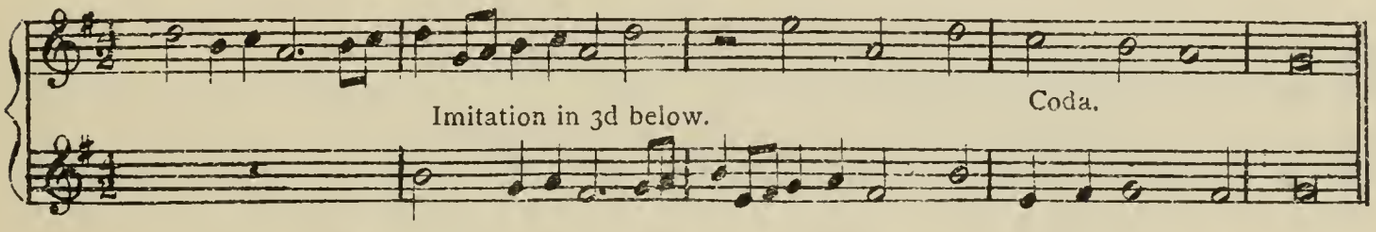
Restricted imitation by similar motion in two parts can be effected in the seven different intervals of the scale, either above or below the tonic.

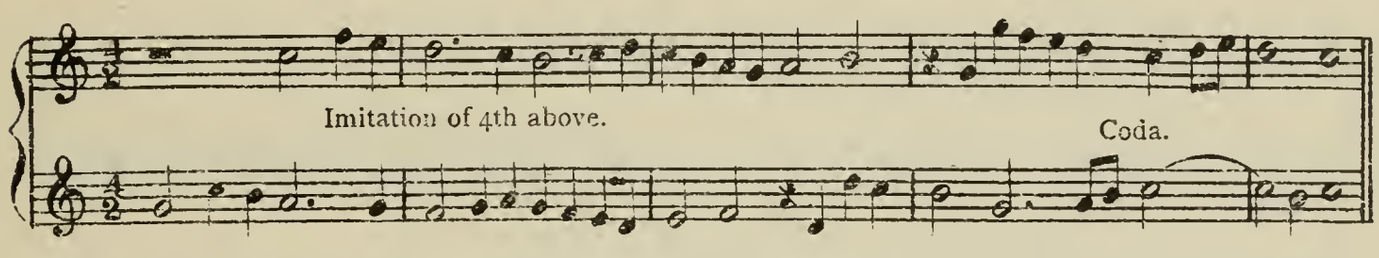
It is to be understood that in imitation, that of the 2d can be treated as the 9th, the 3d as the 10th, the 4th as the 11th, the 5th as the 12th, the 6th as the 13th, the 7th as the 14th, and the octave as the 15th or double octave, etc. The unison only can not be displaced.

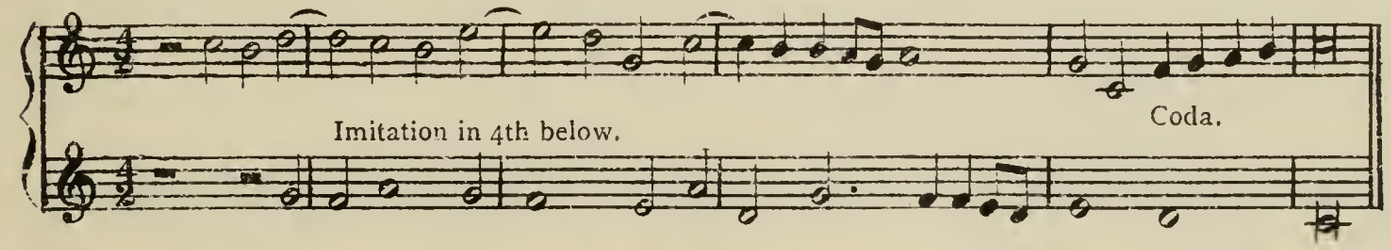
At the end of each example will be seen the term "Coda"—the Italian word for tail—which signifies conclusion. The coda commences only when the imitation is quitted previous to finishing, without which it might go on indefinitely.

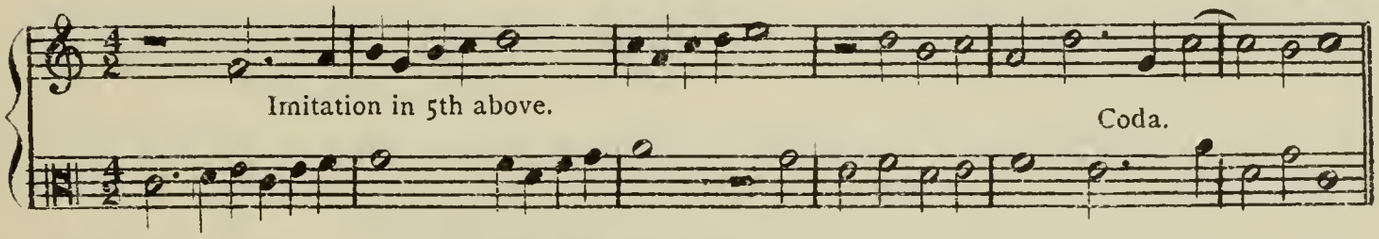


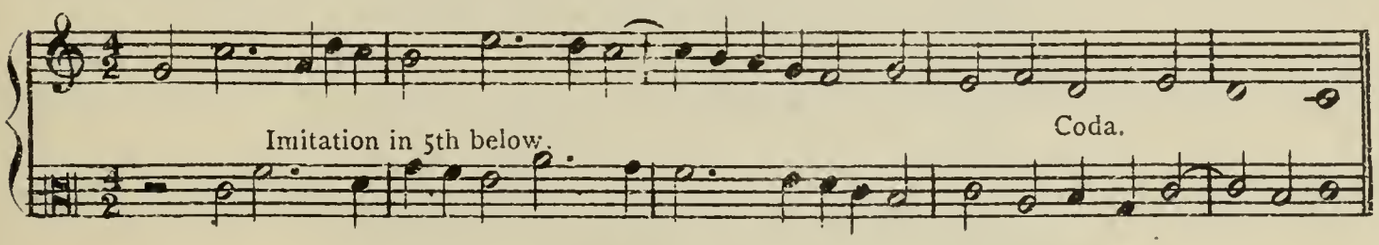

Imitation in 3d above.
Coda.

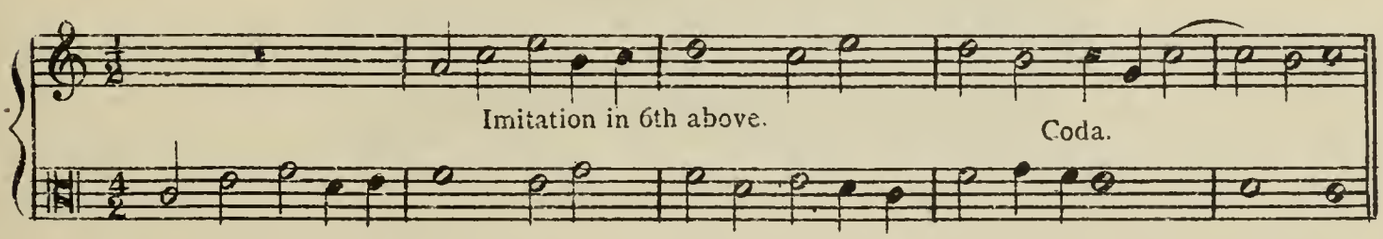

Imitation in 3d below.
Coda.

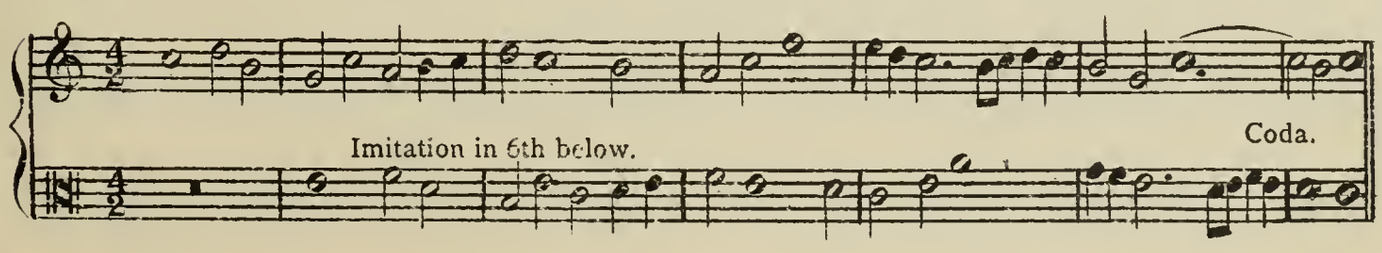

Imitation of 4th above.
Coda.

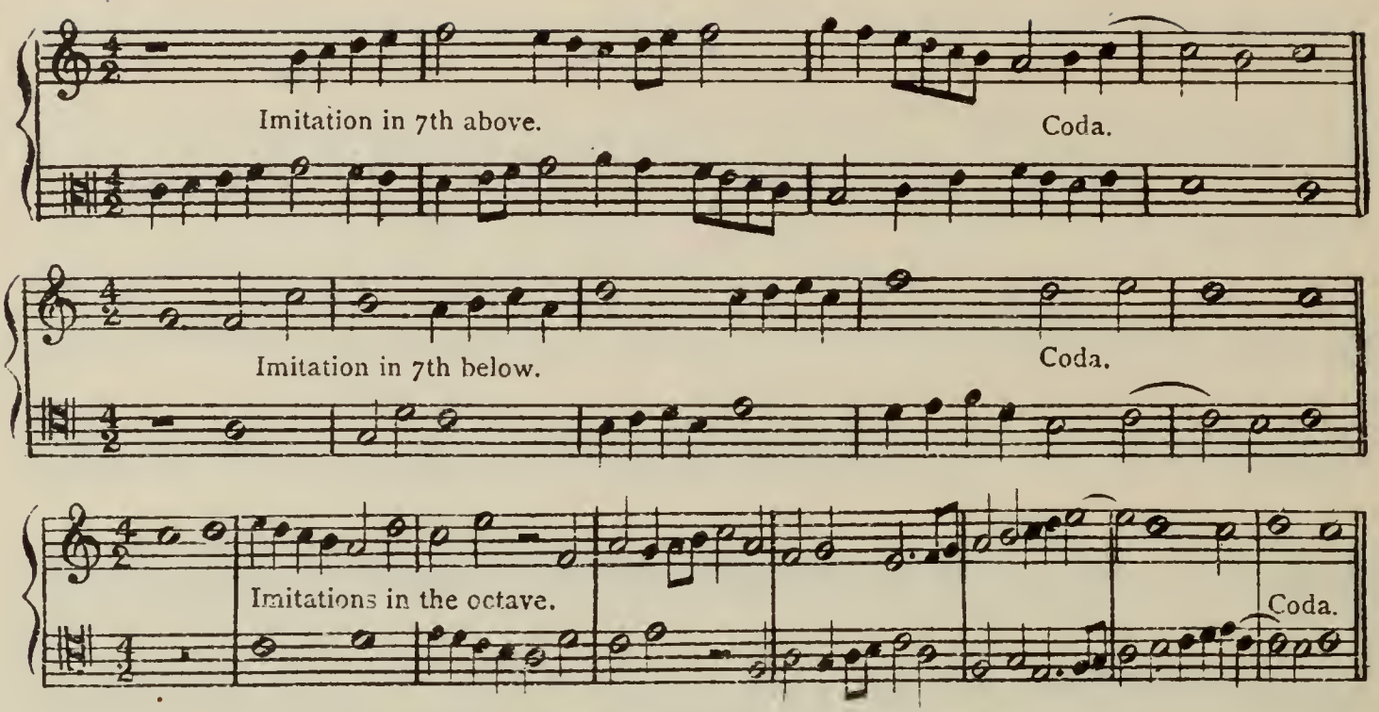

Imitation in 4th below.
Coda.


Imitation in 5th above.
Coda.


Imitation in 5th below.
Coda.

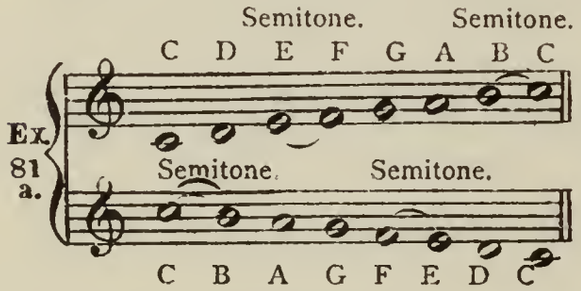

Imitation in 6th above.
Coda.

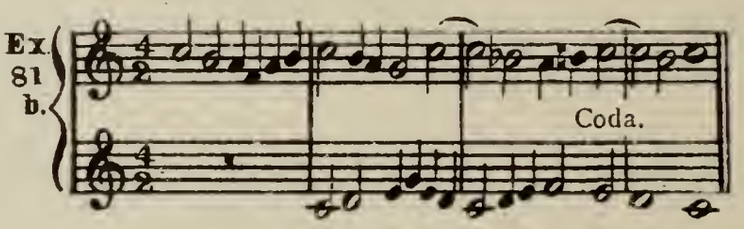

Imitation in 6th below.
Coda.



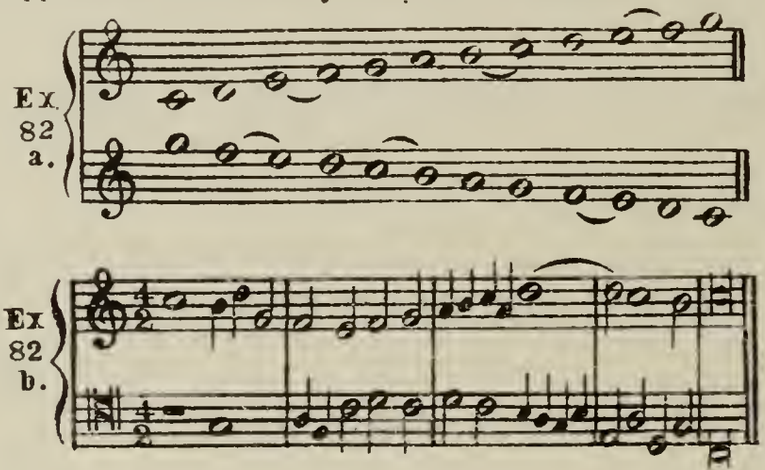
SECOND ORDER—FREE IMITATION BY CONTRARY MOTION.

Free imitation by contrary motion is produced by placing one scale under another in contrary motion; for C major and relative A minor scales thus:

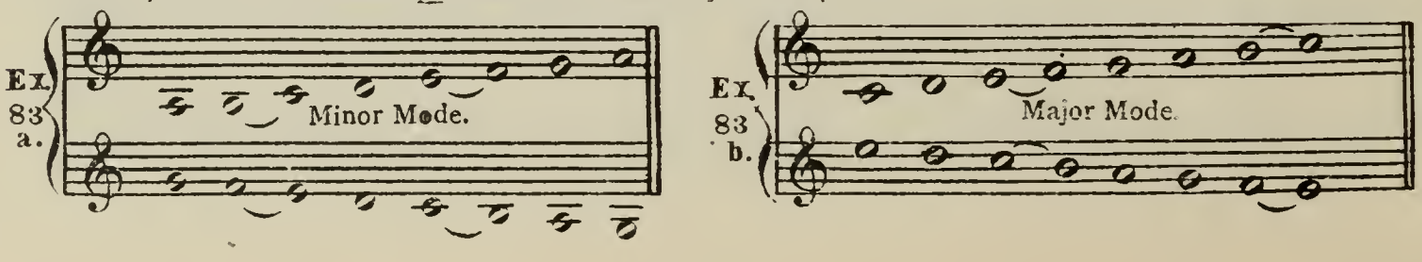


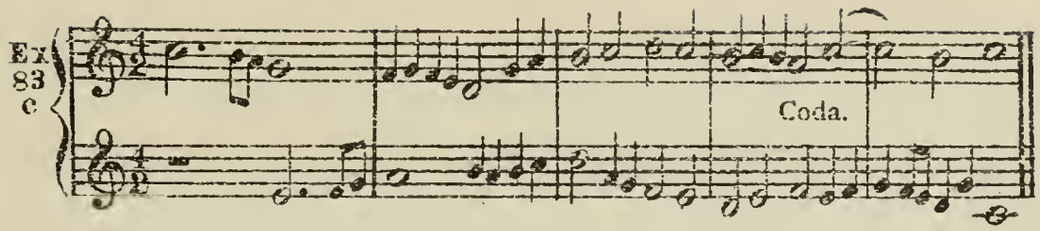


For IRREGULAR imitation by contrary motion, the following scale opposed to itself may be used, and this method can be applied to both the major and minor modes.

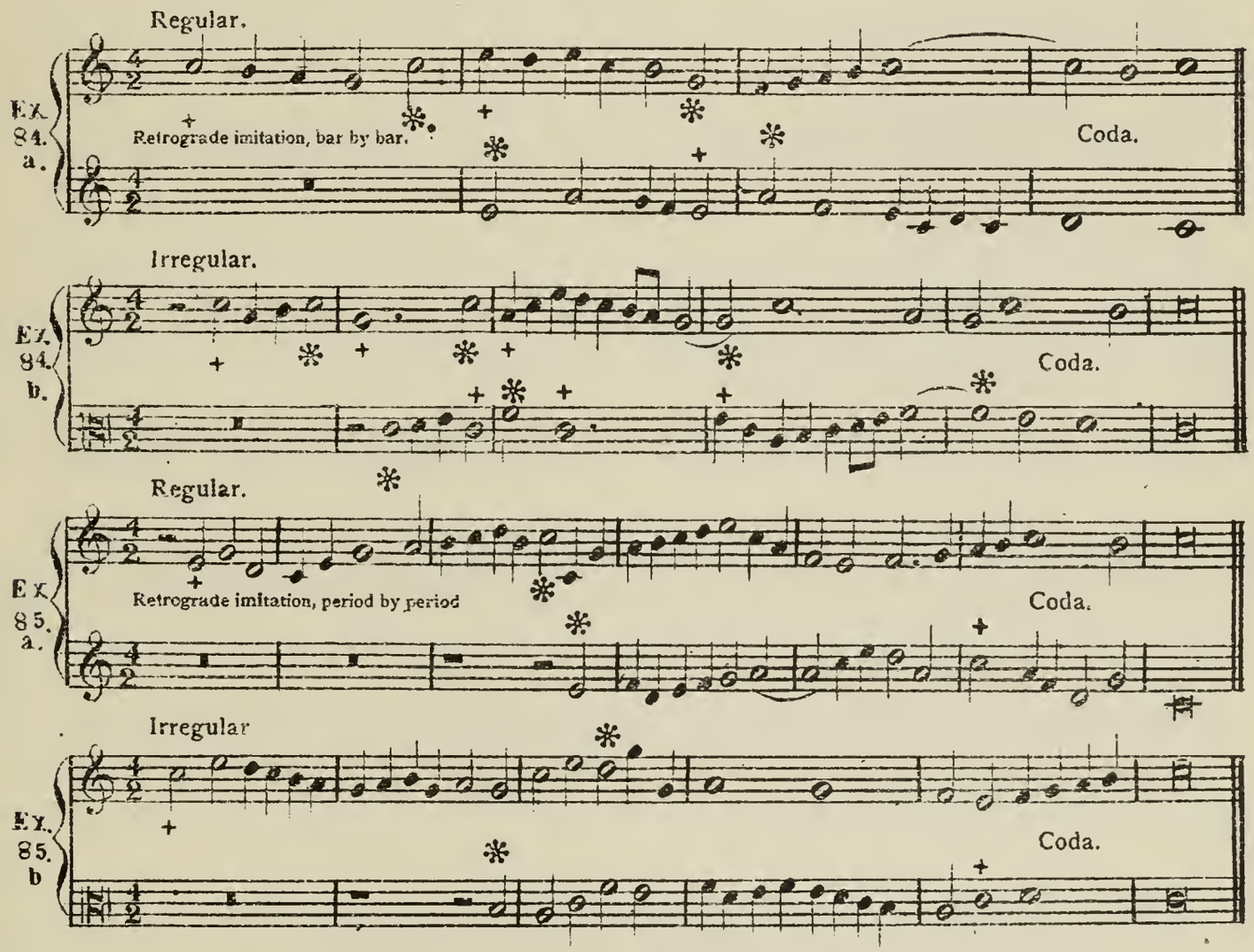


For REGULAR or RESTRICTED imitation by contrary motion, two scales must be placed opposite each other, so that the tones and semitones exactly correspond.





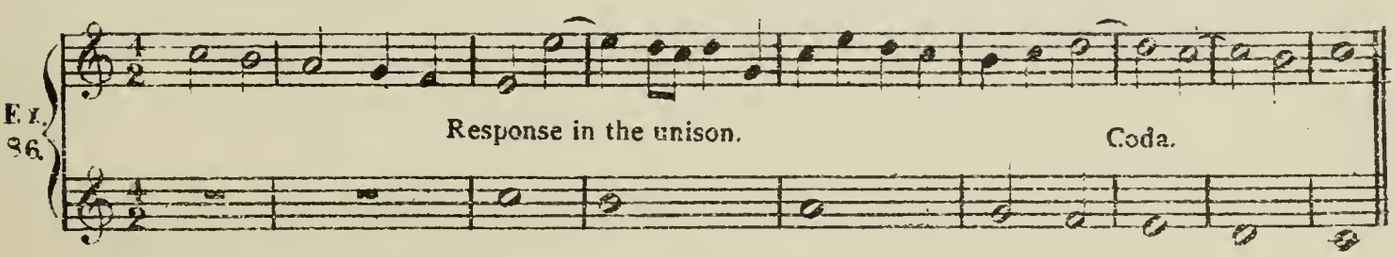
Retrograde imitation by contrary motion consists in commencing the response with the last note of the subject and retrograding towards the first. It may be produced in two ways, either bar by bar or period by period. As is the case in the previous division, all the imitations of this order can be effected in all the intervals of the scale.



ON SEVERAL OTHER KINDS OF IMITATION.

We have, further, more imitations by augmentation, diminution, reversed accents, and also interrupted, convertible, periodic and canonic imitations. They may all be treated either in a restricted or free manner.

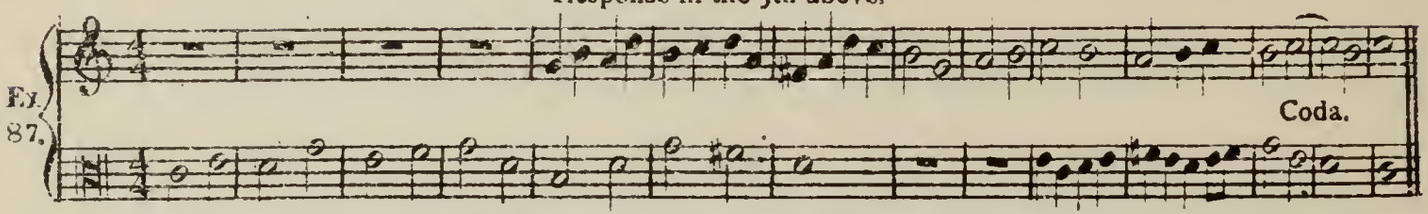
Imitation by Augmentation takes place when the response imitates the subject note by note, while augmenting the value of each note.



Imitation by DIMINUTION takes place when the response diminishes the value of each note of the subject.

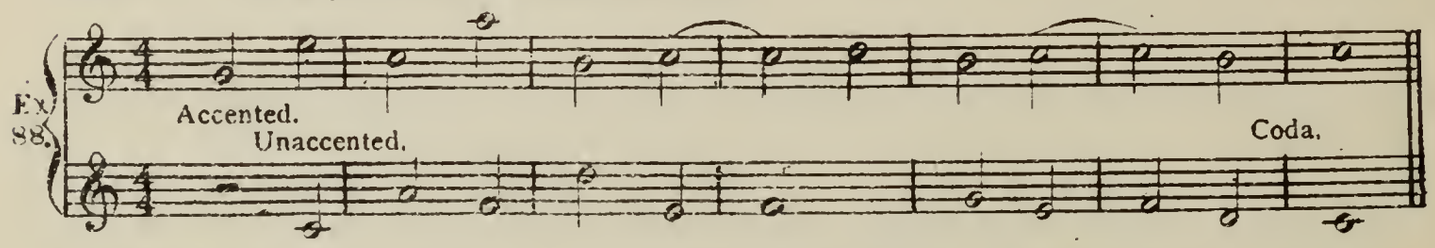
Response in the 5th above.

Ex. 87.



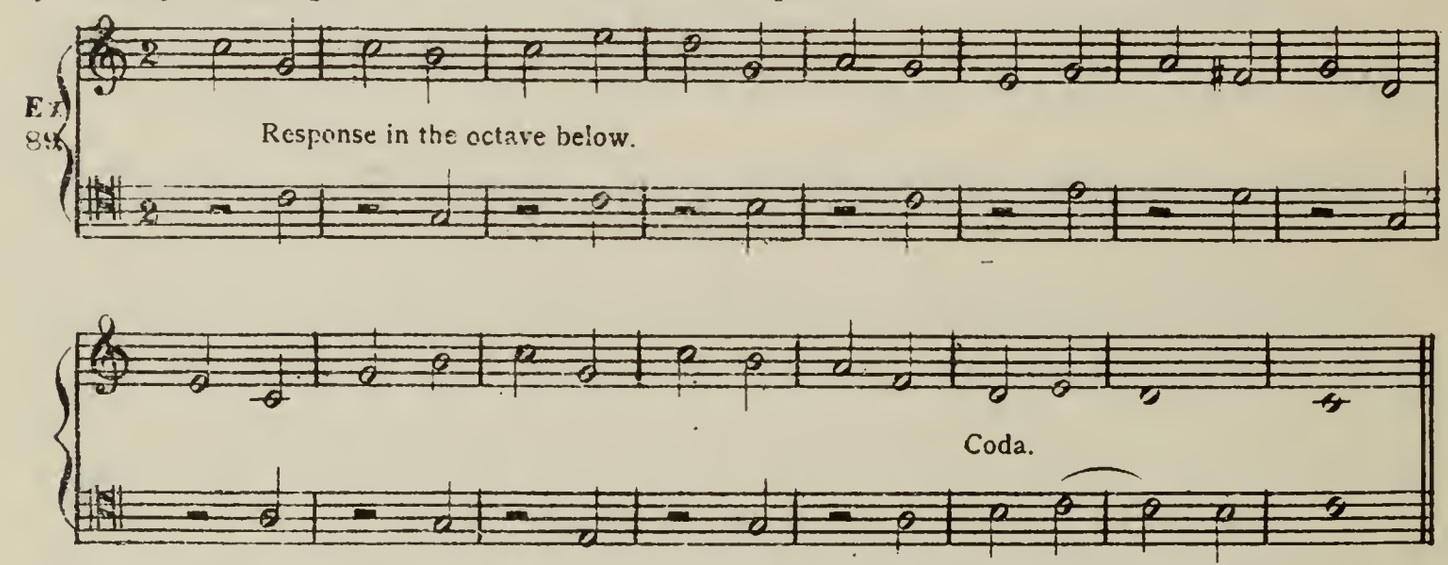
Imitation with REVERSED ACCENTS takes place when the subject commences on the accented part of the bar, and the response on the unaccented part.

Ex. 88.



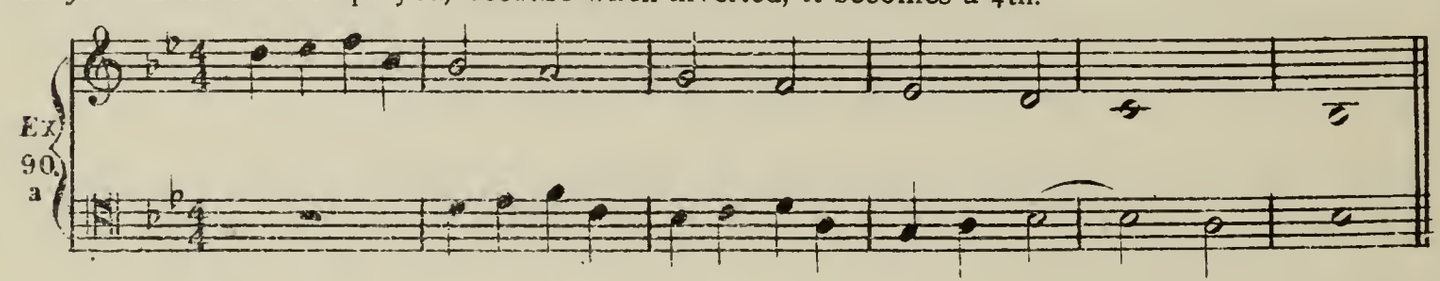
INTERRUPTED imitation is effected by suspending the continued progression of the notes proposed by the subject, through the medium of rests in the response.

Ex. 89.

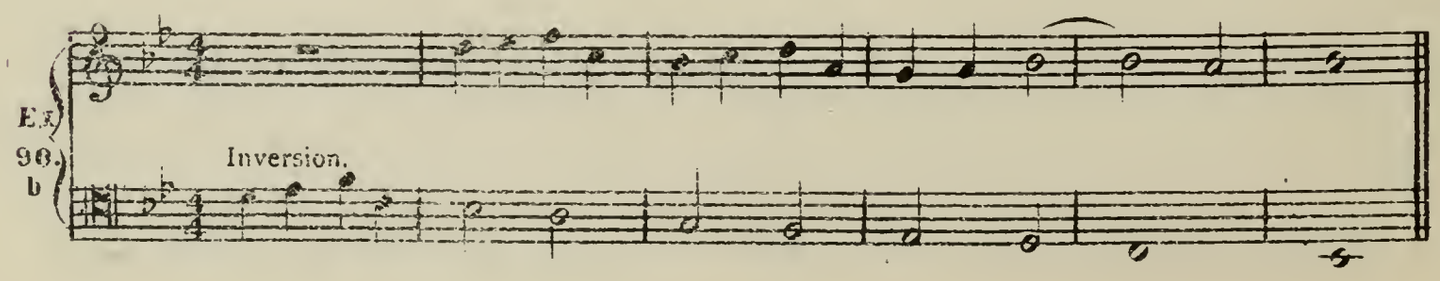


CONVERTIBLE imitation belongs, properly speaking, to double counterpoint, and is an imitation written in such a way that the upper part can become the lower, and *vice versa*. The interval of the 5th can never be employed, because when inverted, it becomes a 4th.

Ex. 90. a

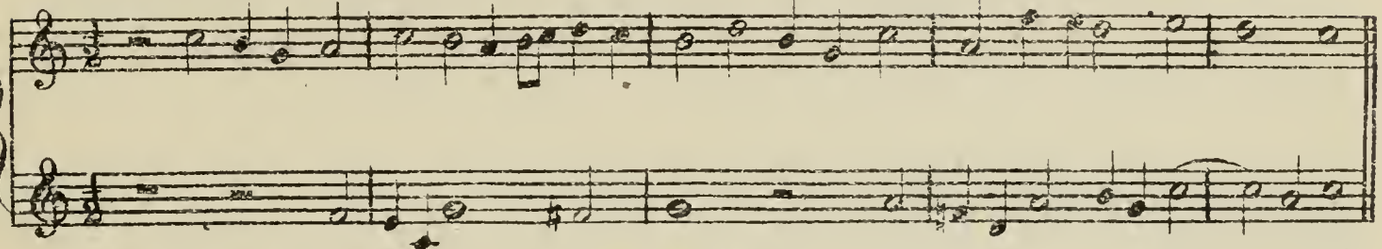


Ex. 90. b



Periodic imitation takes place when only a portion of the subject is imitated by the response.

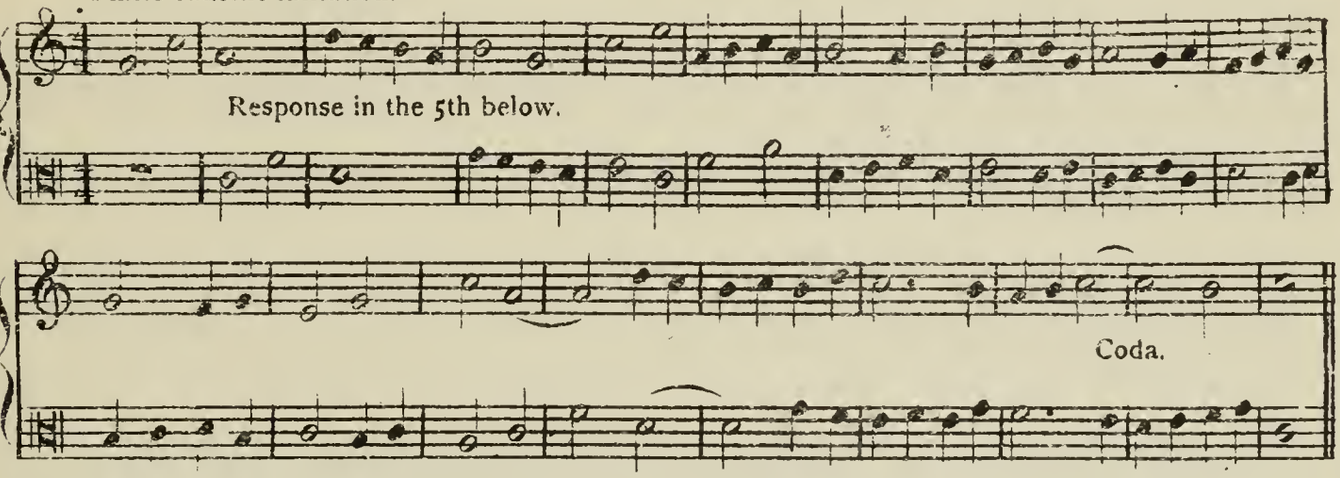
Ex. 91.



Canonic imitation (or Catch) is when the response imitates the subject note for note, from beginning to end. It is "*Finite*" when it is accompanied by a Coda,

Finite canonic imitation.

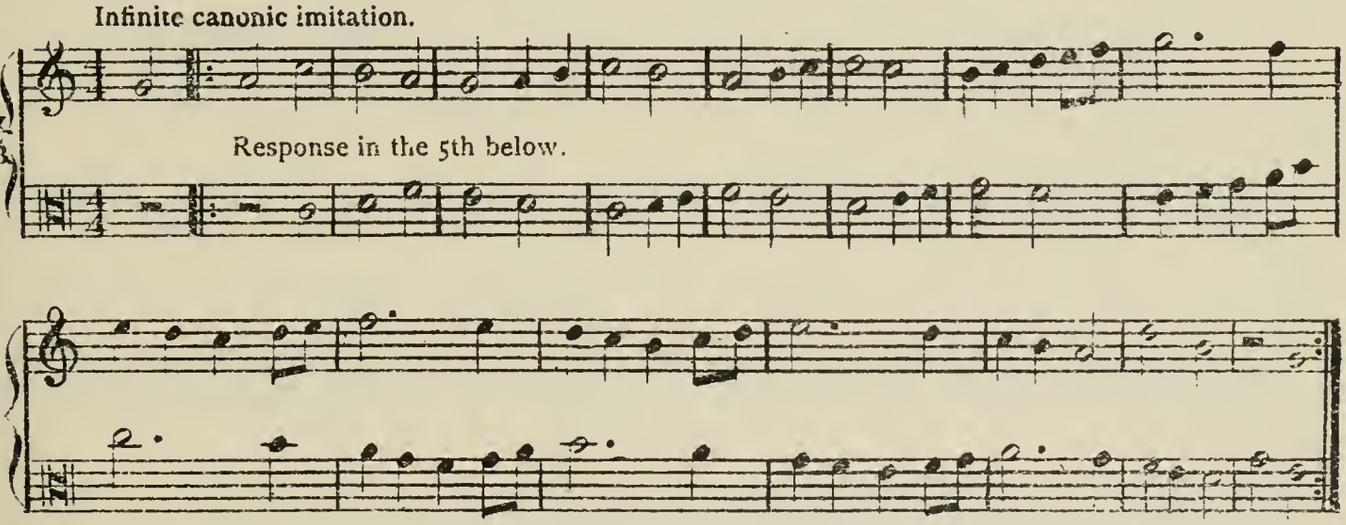
Ex. 92.



and "*Infinite*" when it can return to the beginning without ceasing.

Infinite canonic imitation.

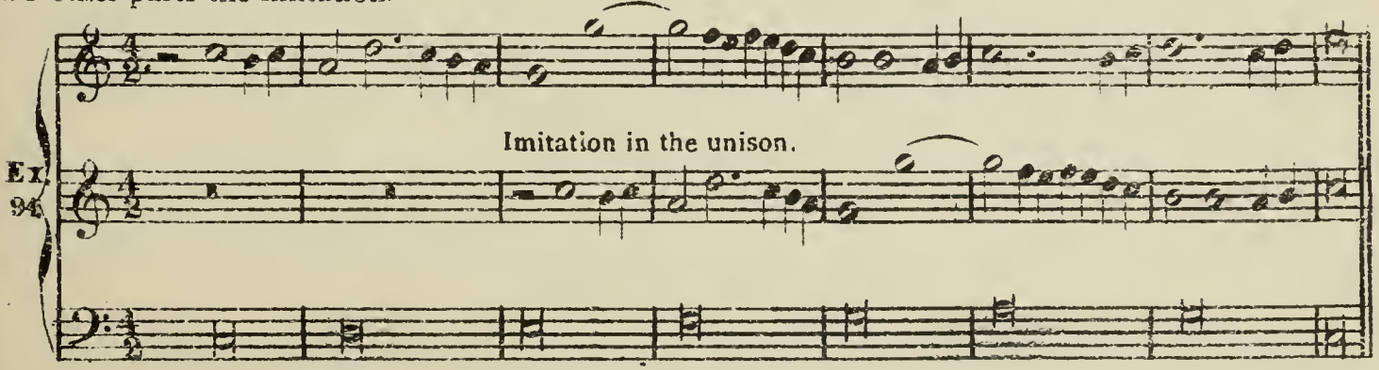
Ex. 93.



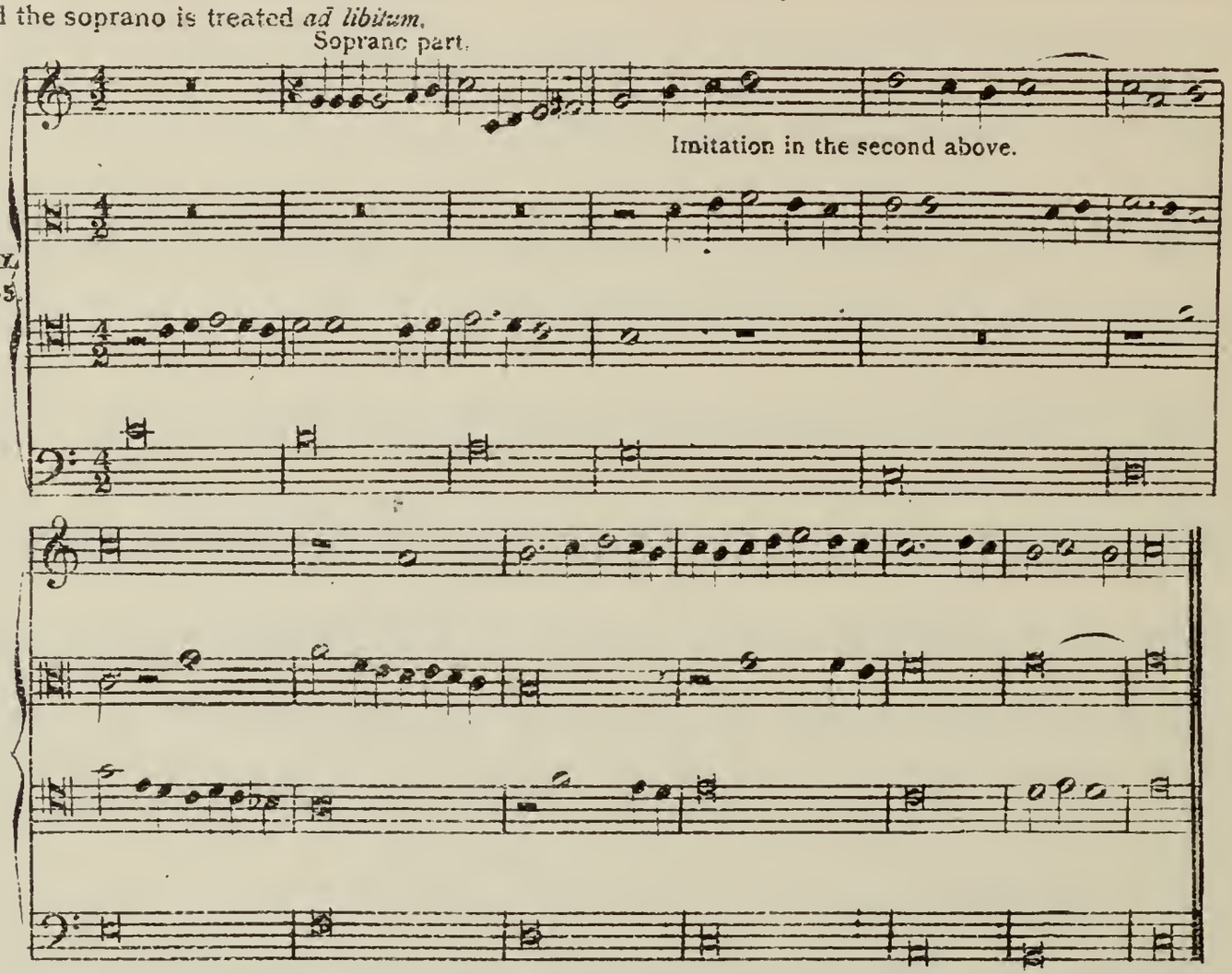
THIRD ORDER—IMITATION IN THREE, FOUR, OR MORE PARTS.

All the different kinds of imitations mentioned heretofore may be treated in three, four, or more parts. The first method to be pursued is to write a subject or *Cantus firmus* in the bass, and upon that build the imitations. In the following example in three parts, the bass has the subject and the two other parts the imitation.

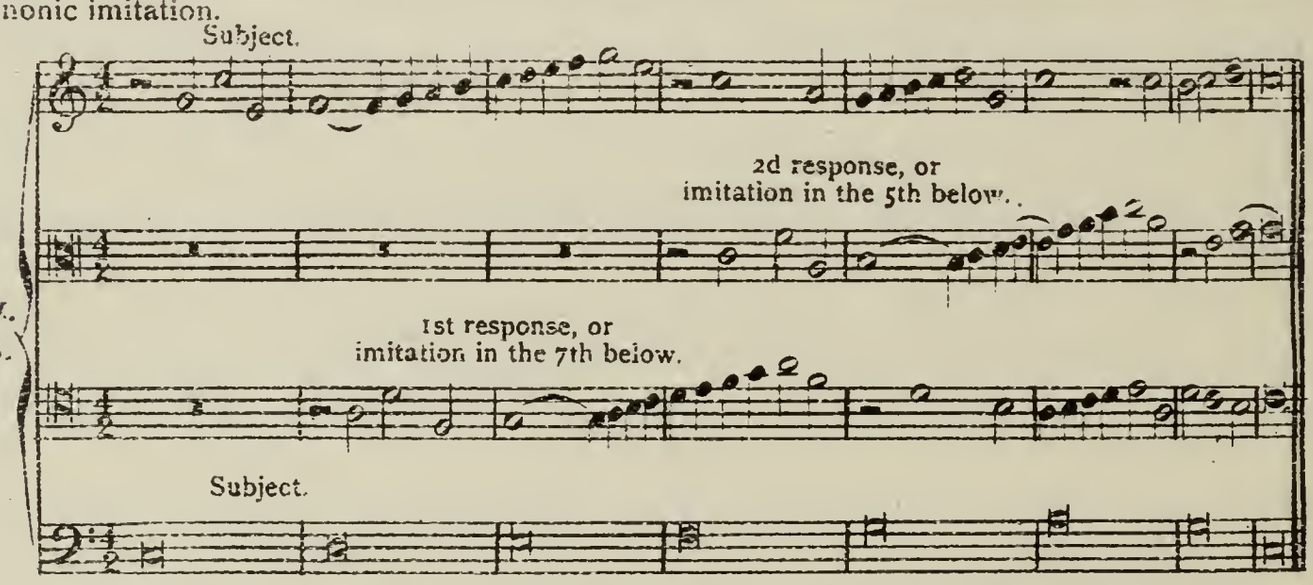
Ex. 94.



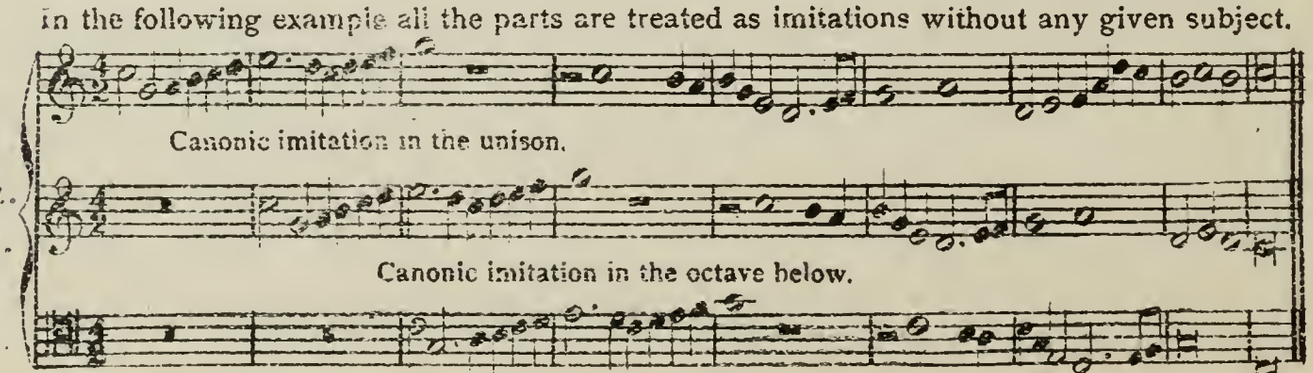
In the following example in four parts, the bass has the subject, the tenor and alto the imitations, and the soprano is treated *ad libitum*.



In the following example in four parts, the bass has the subject, and the other three voices are in canonic imitation.

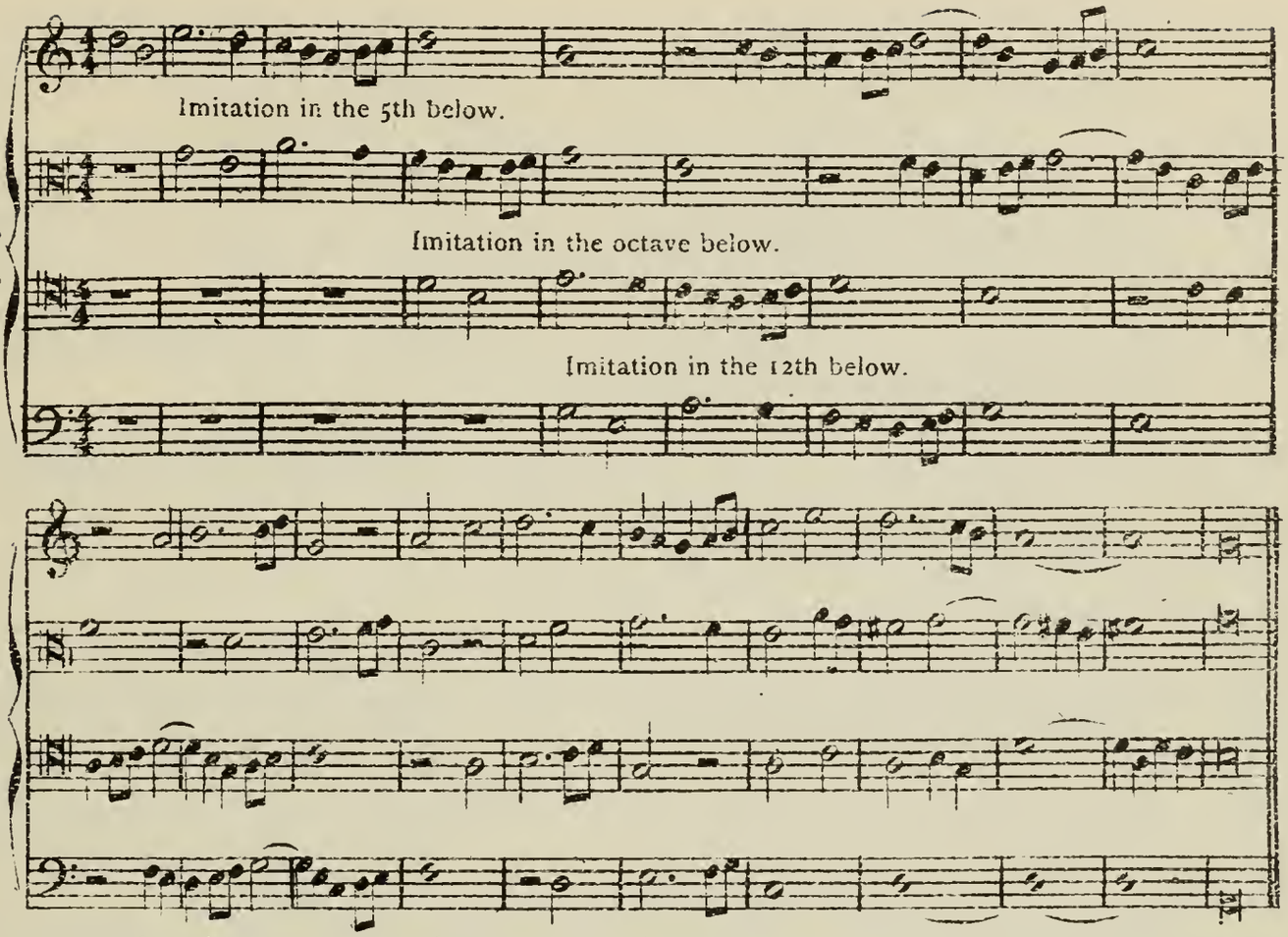


In the following example all the parts are treated as imitations without any given subject.



ALBRECHTSBERGER.

Ex. 98.



When more than four parts are written, parts "*ad libitum*" may be used if it be found impossible to make strict imitation throughout all the parts.

INVERSE CONTRARY IMITATIONS FOR TWO CHOIRS.

If a subject in four parts be proposed in one of the two choirs, the response should be inverse in the other choir.

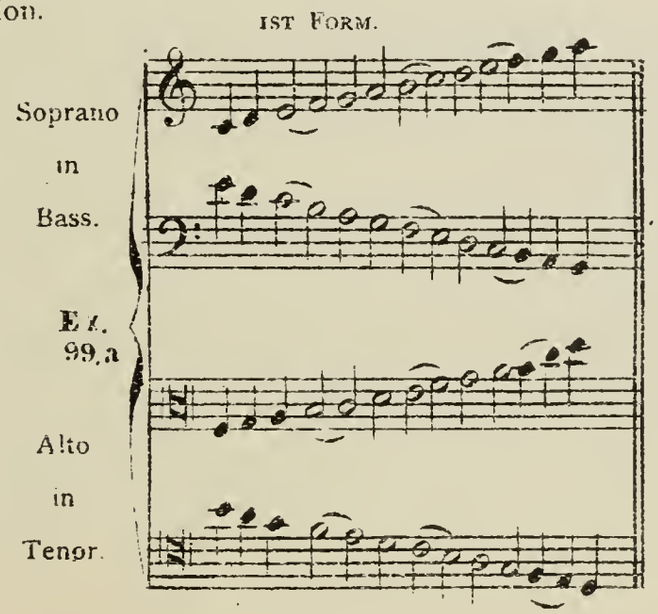
In order to invert the response, the bass of the subject of the 1st choir should be placed in the soprano of 2d choir, and *vice versa*, the part of the alto in that of the tenor, and lastly, that of the tenor in the alto.

In order that the response should be contrary, each part of the response should answer by contrary motion, in the manner stated above, to its corresponding part proposed in the subject.

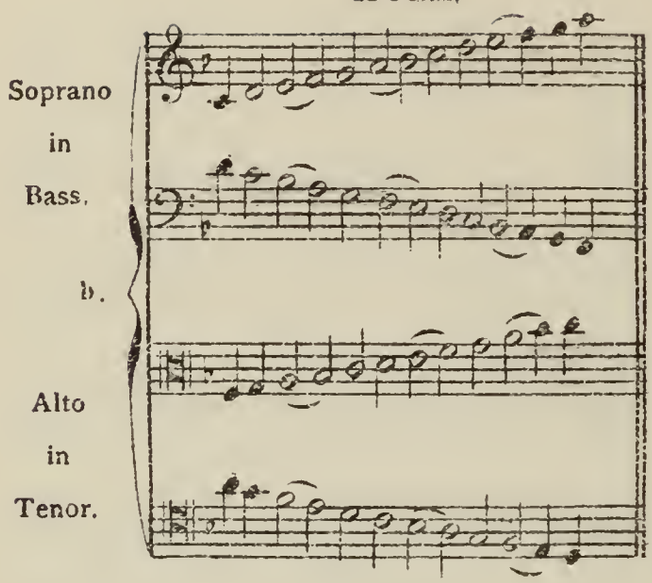
The following rule must be strictly observed: No one of the lower parts must ever form a fourth with the upper part, because the inversion produces a fifth. The following are the four forms of inversion by contrary motion.

1ST FORM.

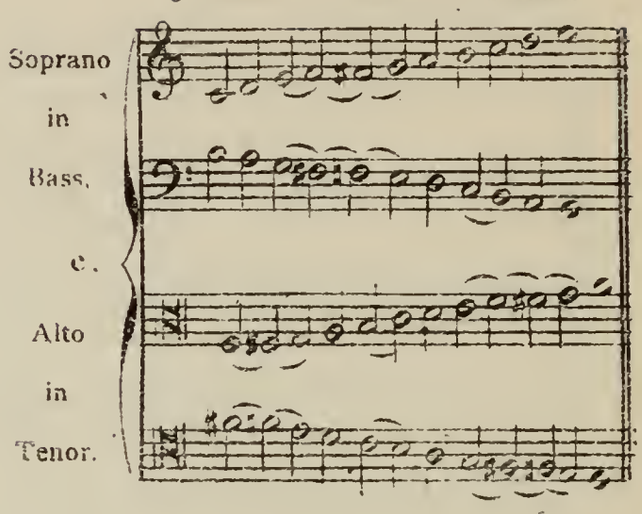
Ex. 99,a



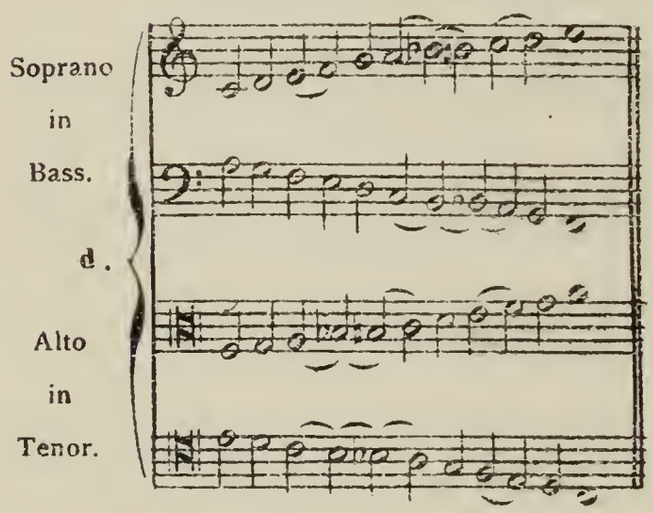
2D FORM.



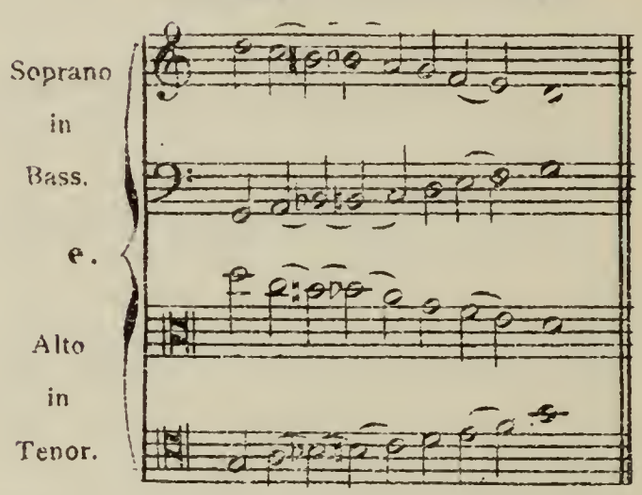
3D FORM. CHROMATIC BY SHARPS.



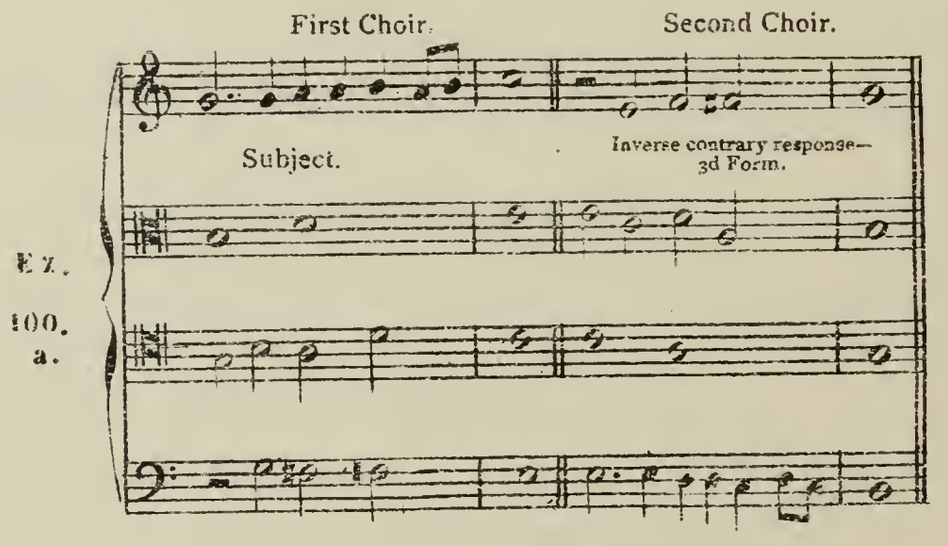
4TH FORM. CHROMATIC BY FLATS.

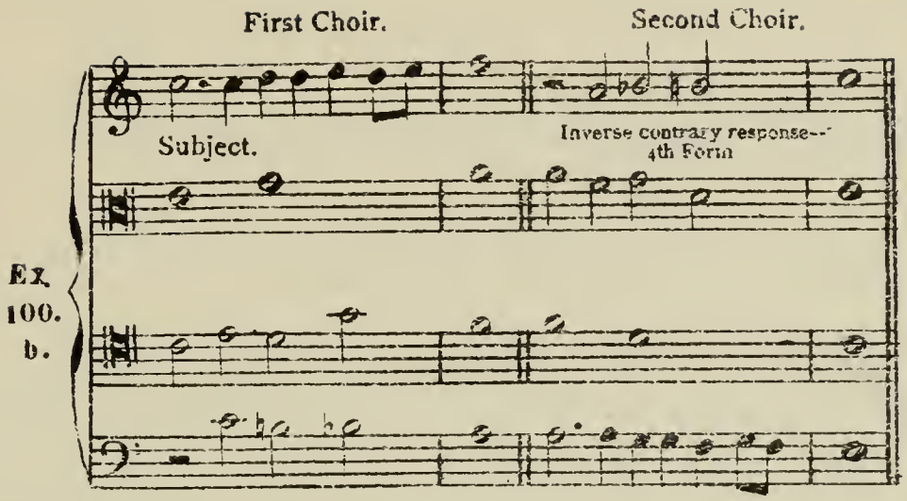


ANOTHER DISPOSAL OF THIS SCALE.



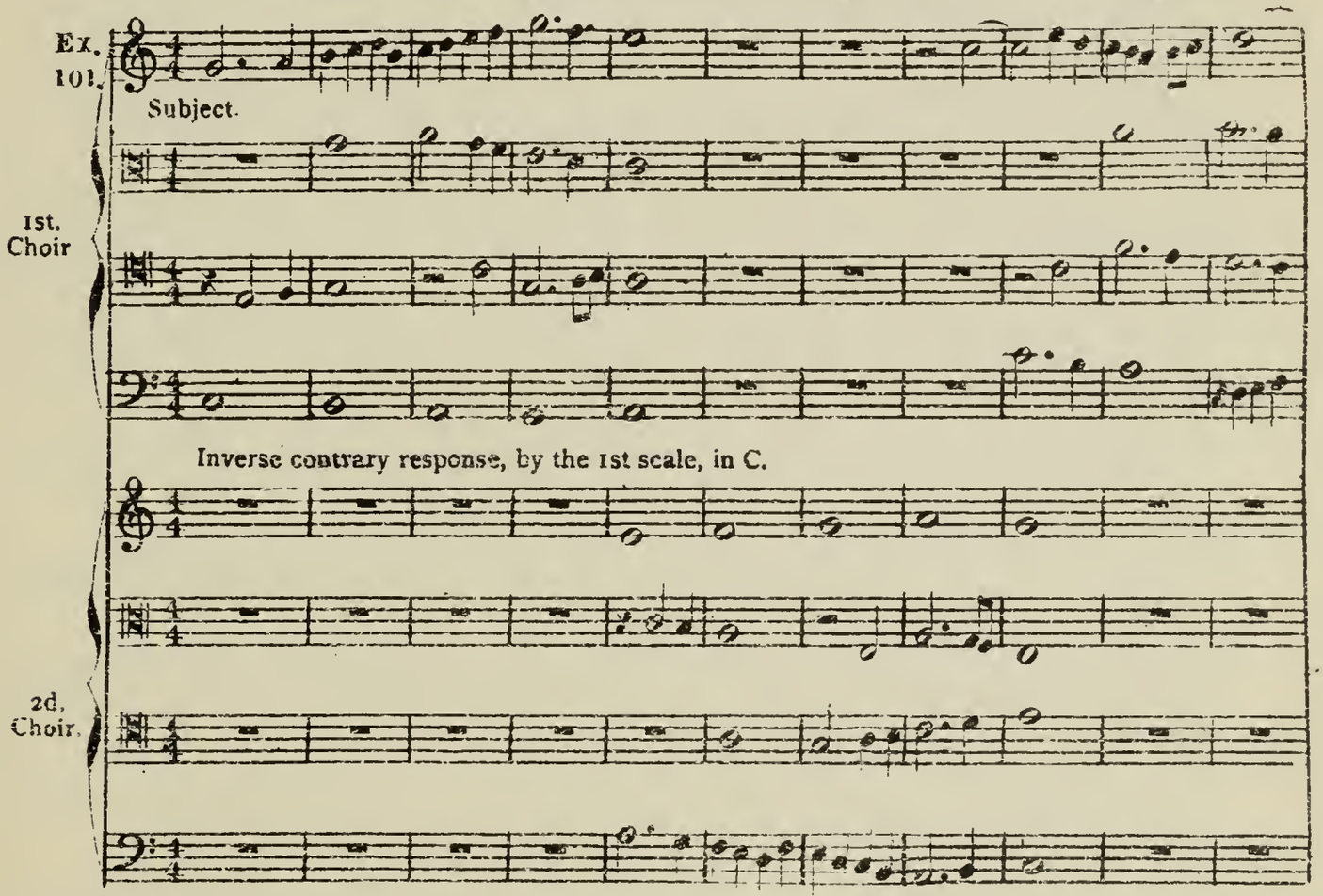
There are other scales, not adduced when treating imitation in two parts by contrary motion, but which may be employed when the chromatic style is adopted for modulating. Scale, 3d form, may be used when from the key of C we wish to modulate into its dominant. Scale, 4th form, may be employed when from the key of C we wish to modulate into its subdominant. See the following examples.

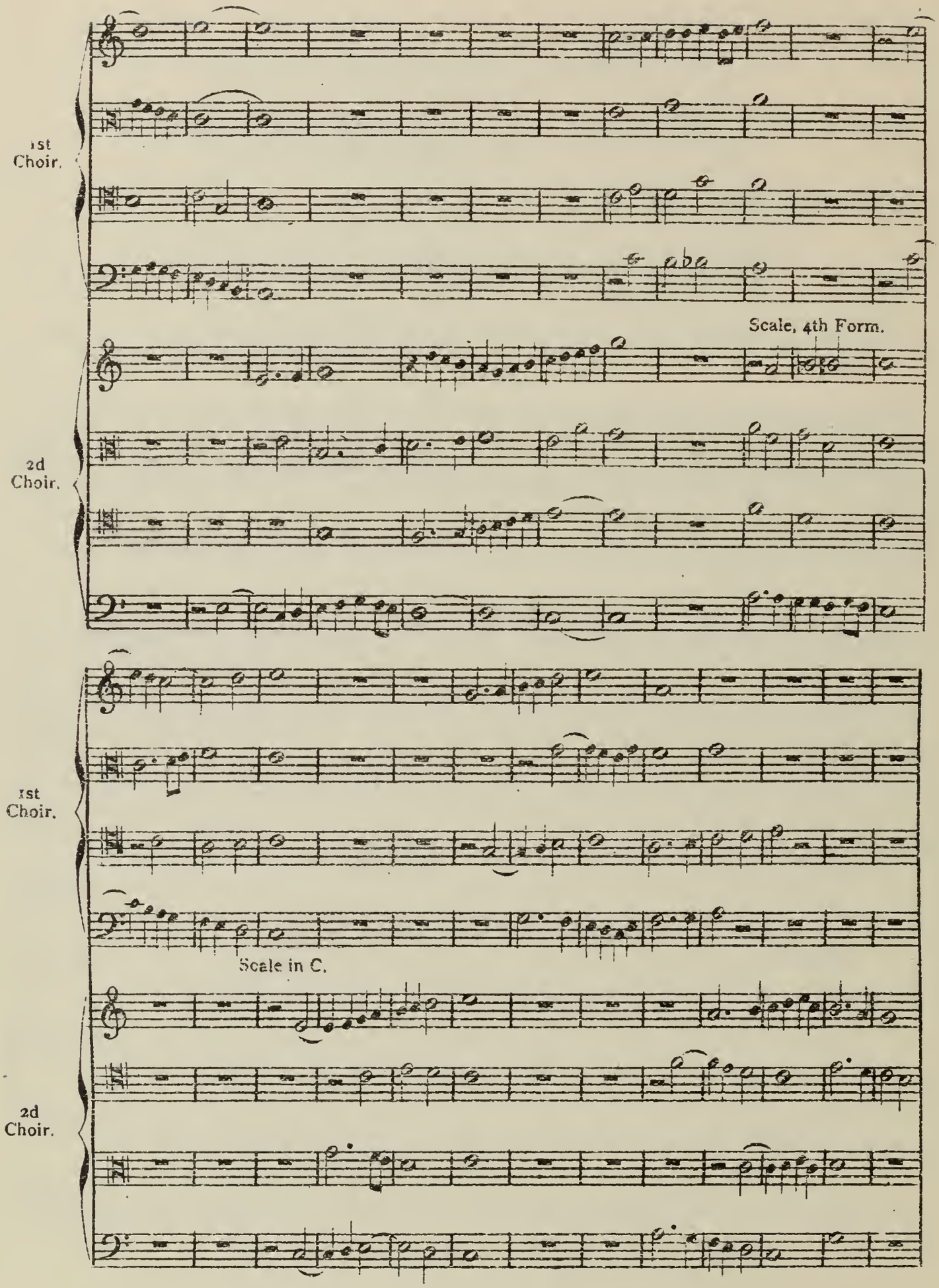


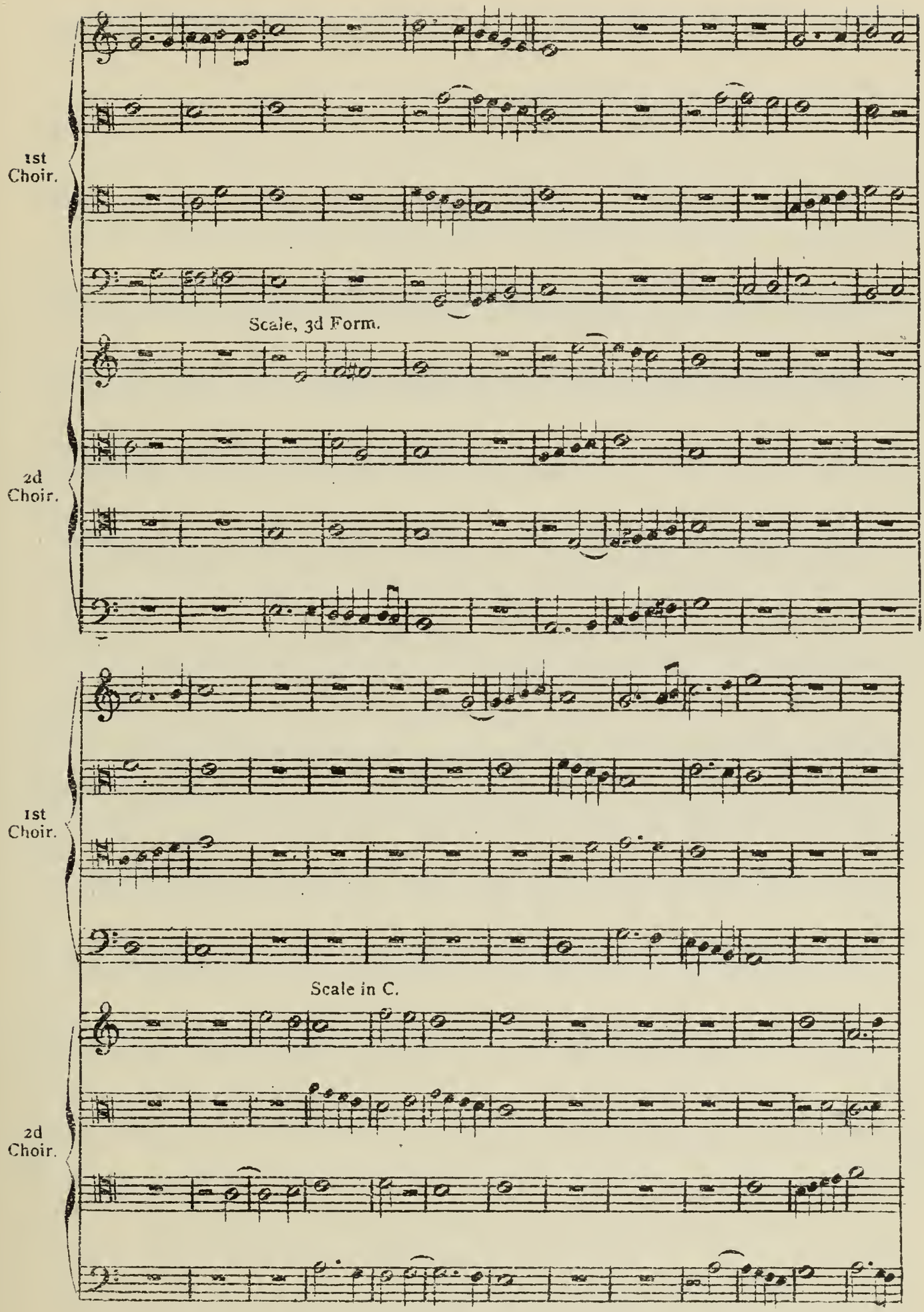


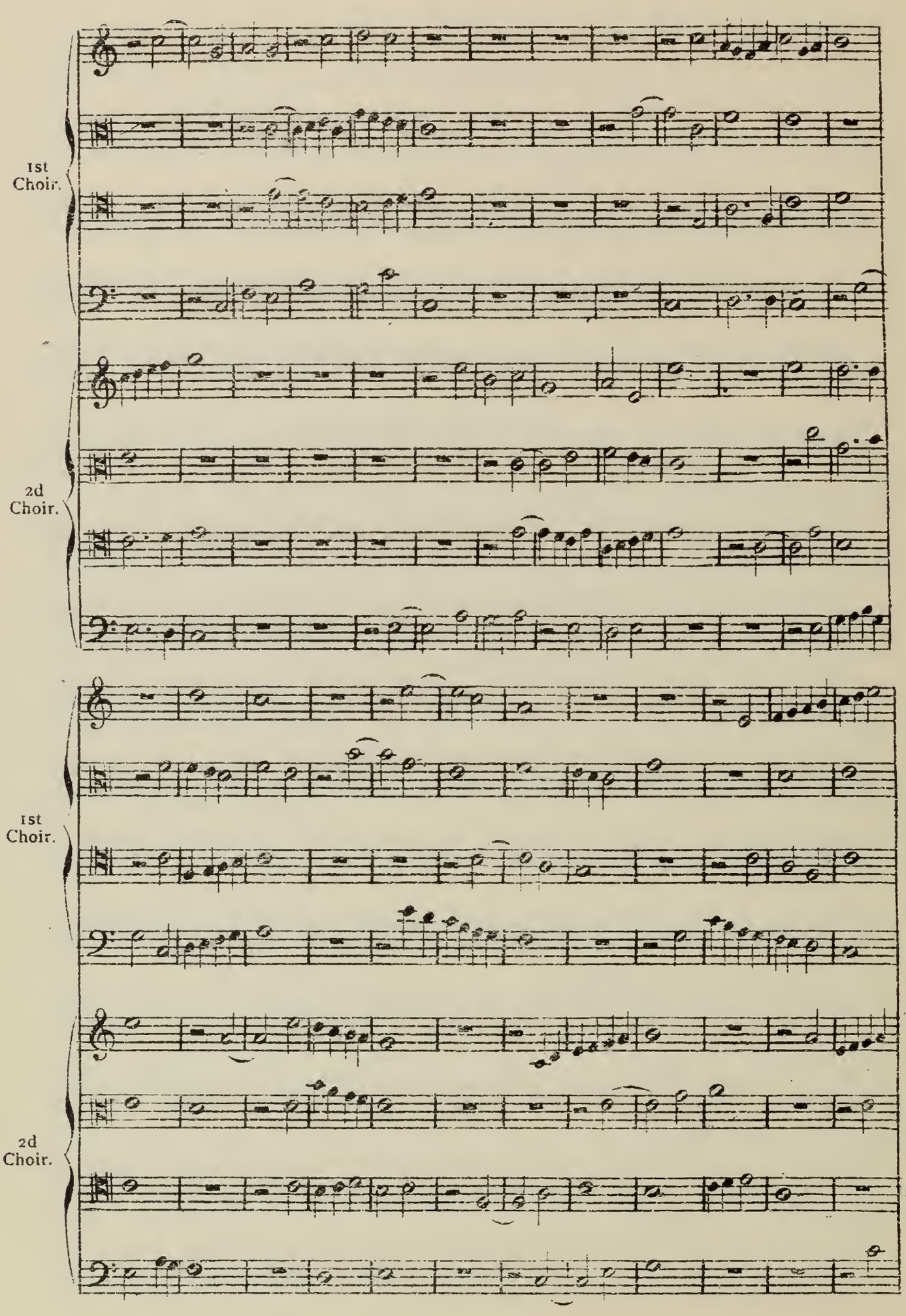
It is necessary to state that it is indispensable that the inverse contrary imitation should commence before the period of each subject terminates, or else just upon the close of it. The subject in its turn should recommence either before or upon the close of the response. According to this rule, it will be perceived that the harmony and the parts must be combined in such a way that they will adapt themselves to the disposal of the several beginnings.

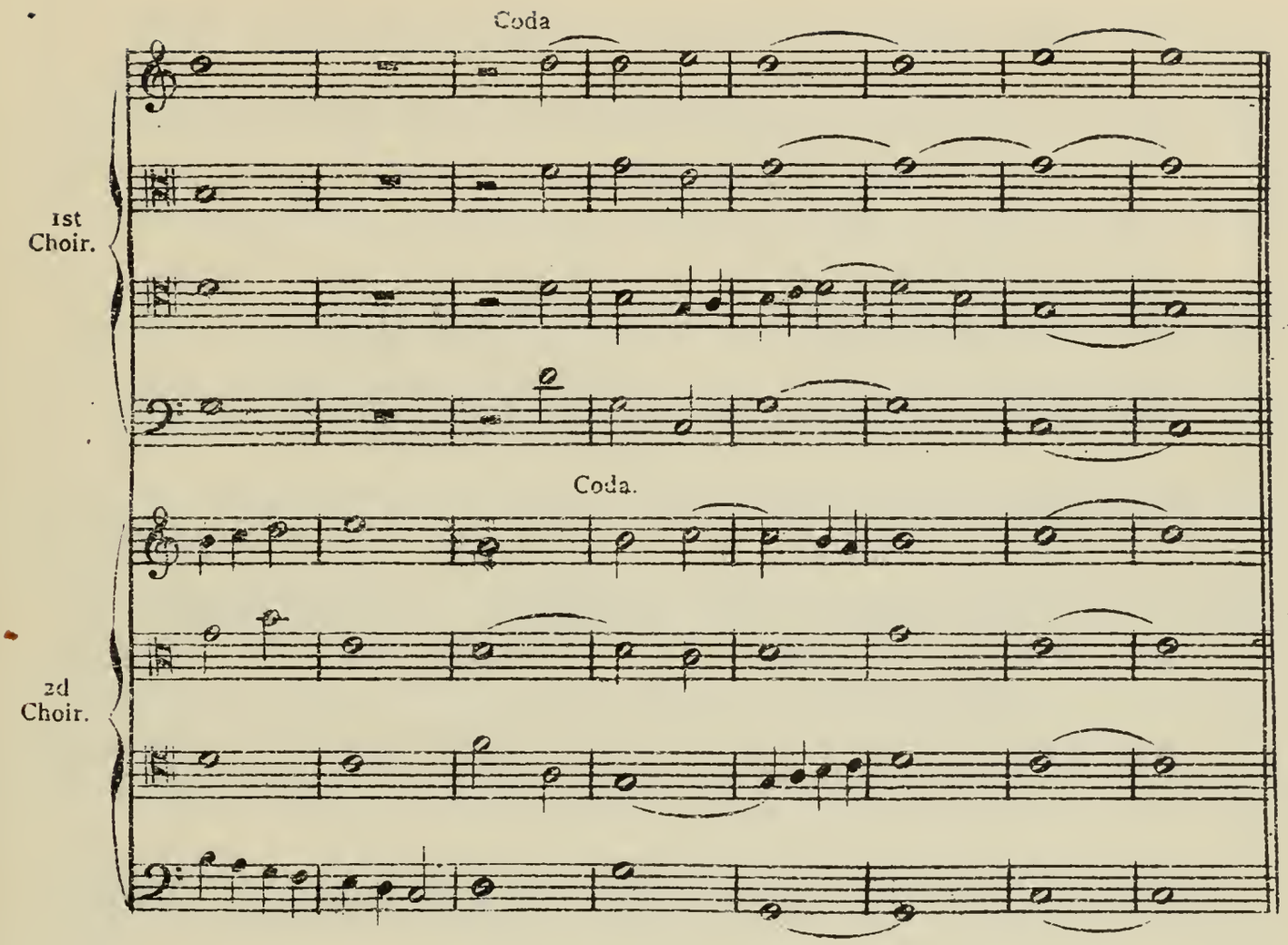
REGULAR PIECE, COMPOSED IN INVERSE CONTRARY IMITATION. CHERUBINI.




1st Choir.
Scale, 4th Form.
2d Choir.
1st Choir.
Scale in C.
2d Choir.


1st Choir.
Scale, 3d Form.
2d Choir.
1st Choir.
Scale in C.
2d Choir.


1st Choir.
2d Choir.
1st Choir.
2d Choir.



DOUBLE COUNTERPOINT.

Double counterpoint consists in writing the part which forms the counterpoint in such a manner that it can be transplaced from above to below the subject, and *vice versa*. The transplacing of the part may be made in seven ways, consequently there are seven kinds of double counterpoint—one for each step of the scale; the octave, the 2d or 9th, 3d or 10th, 4th or 11th, 5th or 12th, 6th or 13th, and 7th or 14th.

General Rules.

1. The contrapuntal part must be distinguished from the subject by the value of the notes

2. The contrapuntal part should commence after the subject.

3. The contrapuntal part must not be made to cross the subject, because the interval will not change properly when transplaced from higher to lower, or *vice versa*.

4. In all double counterpoint, except that in the octave, the intervals may be raised or lowered, when the modulations require it.

5. The subject as well as the counterpoint can be transplaced to the utmost limit of voices or instruments. For example—the subject may be played by a piccolo-flute, and the counterpoint by a double-bass, or *vice versa*.

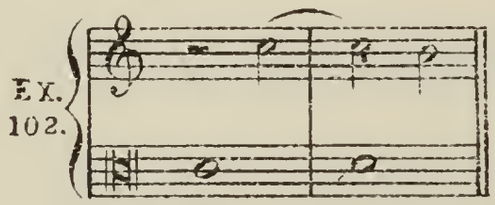
DOUBLE COUNTERPOINT IN THE OCTAVE.

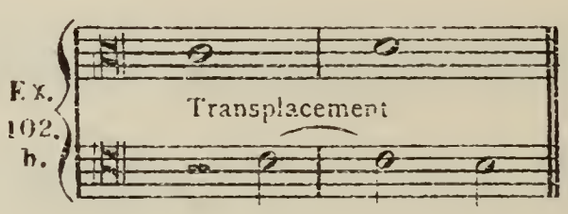
The intervals are indicated by two rows of figures placed thus:

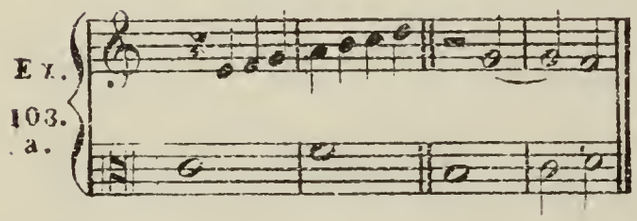
1 2 3 4 5 6 7 8
8 7 6 5 4 3 2 1

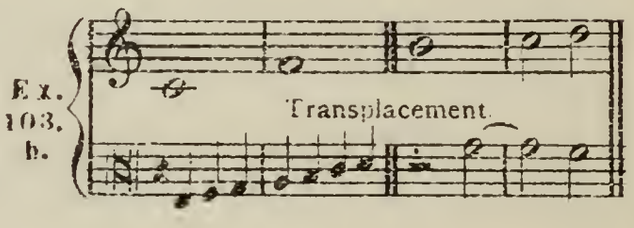
It will here be seen that the intervals when they are thus transplaced, change the unison into an octave, 2d into a 7th, 3d into a 6th, etc.

The octave and the unison should not be much used, as they do not produce sufficient harmony The 5th should not be employed because it becomes a 4th when transplaced, and *vice versa*: it should only be written as a passing note or suspension, and must even then be used on the unaccented part of the bar.

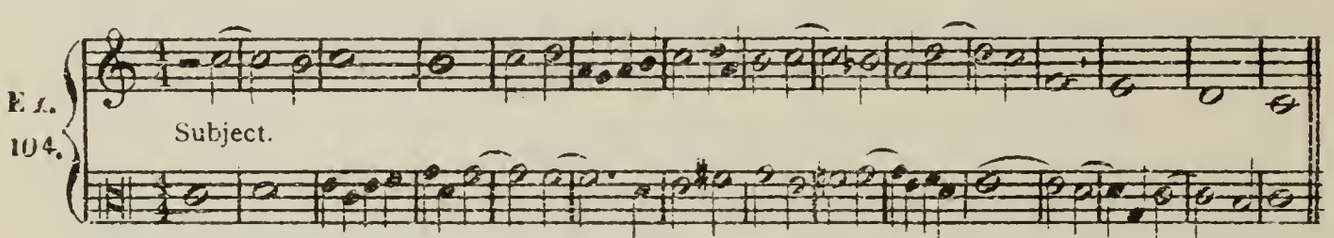


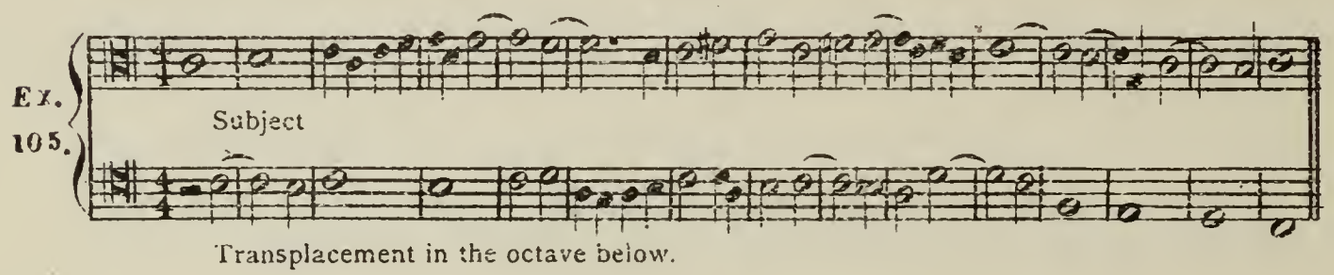






The intervals exceeding an octave, as they undergo no change by displacement, should be avoided. The following is an example of how to employ the intervals in double counterpoint in the octave.





Transplacement in the octave below.

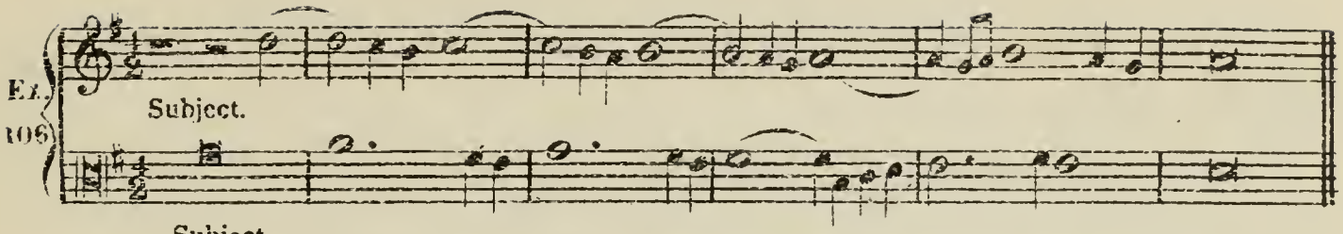
DOUBLE COUNTERPOINT IN THE NINTH OR SECOND.

The combinations of this kind of counterpoint are obtained in the same manner as those in the octave. namely, by placing two series of figures indicating the intervals, thus

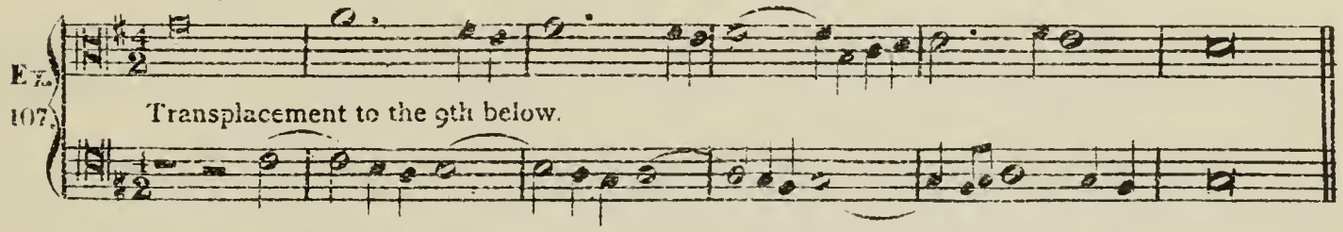
1 2 3 4 5 6 7 8 9
9 8 7 6 5 4 3 2 1

It is seen that this transplacement changes the unison into a 9th, 2d into an 8th, 3d into a 7th. etc. The 5th forms here the principal interval in preparing or saving not only dissonant intervals, but also those that become so by being transplaced. The compass of this double counterpoint should not exceed the 9th. for the same reason that the limit of double counterpoint in the octave is confined to the octave. Double counterpoint in the ninth is the most limited, one of the most ungracious to treat, and should, in composition, only be employed through a few bars.

Ex. 106.

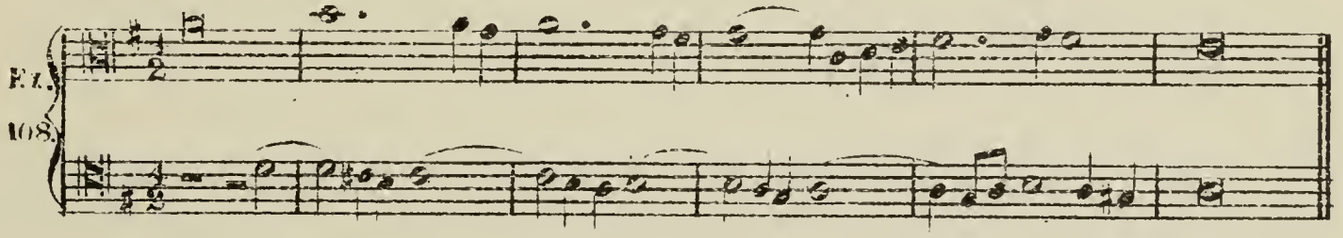


Ex. 107.



By transplacing the subject in Example 106 to the 2d above, and the counterpoint to an octave below, the following inversion will be obtained, to which accidentals must be added on account of the change of key.

Ex. 108.



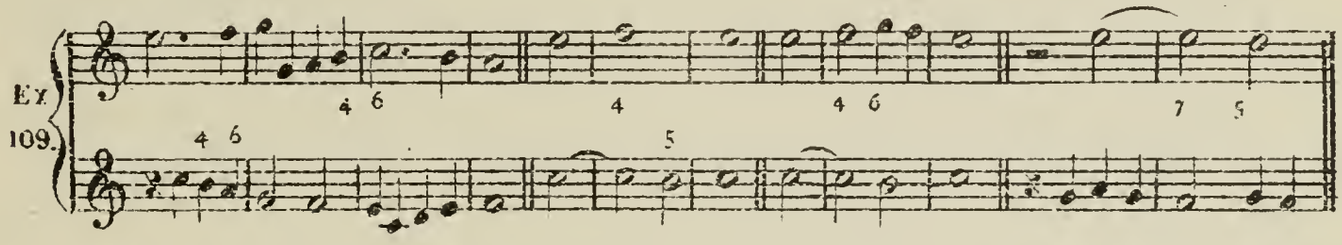
DOUBLE COUNTERPOINT IN THE TENTH OR THIRD.

Double counterpoint in the 10th or 3d commences in the usual manner:

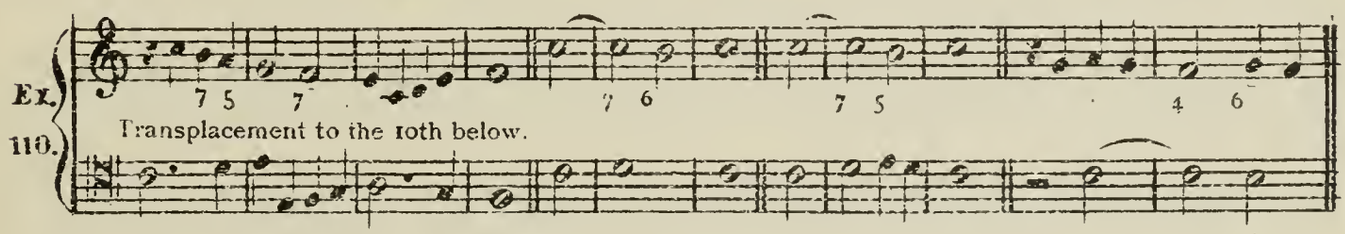
1 2 3 4 5 6 7 8 9 10
10 9 8 7 6 5 4 3 2 1

By this series of figures it will be seen that two 3ds or two 10ths cannot be used in succession, because by being transplaced, two octaves or two unisons would be produced. Neither must two 6ths be employed in succession, because by being transplaced, consecutive 5ths would be produced. Nor must the 4th and 7th be employed, except as passing discords, unless the 4th be resolved into a 5th or 6th, and the 7th into a 5th.

Ex. 109.

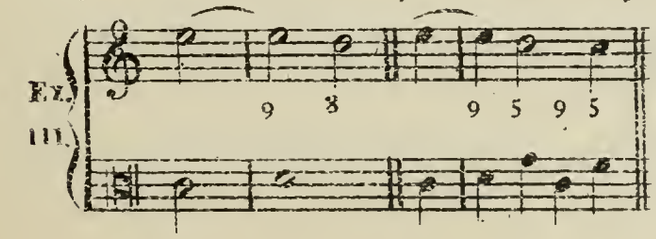


Ex. 110.

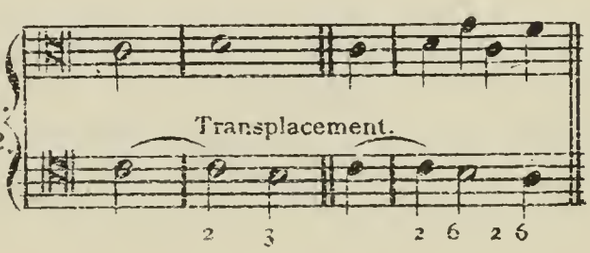


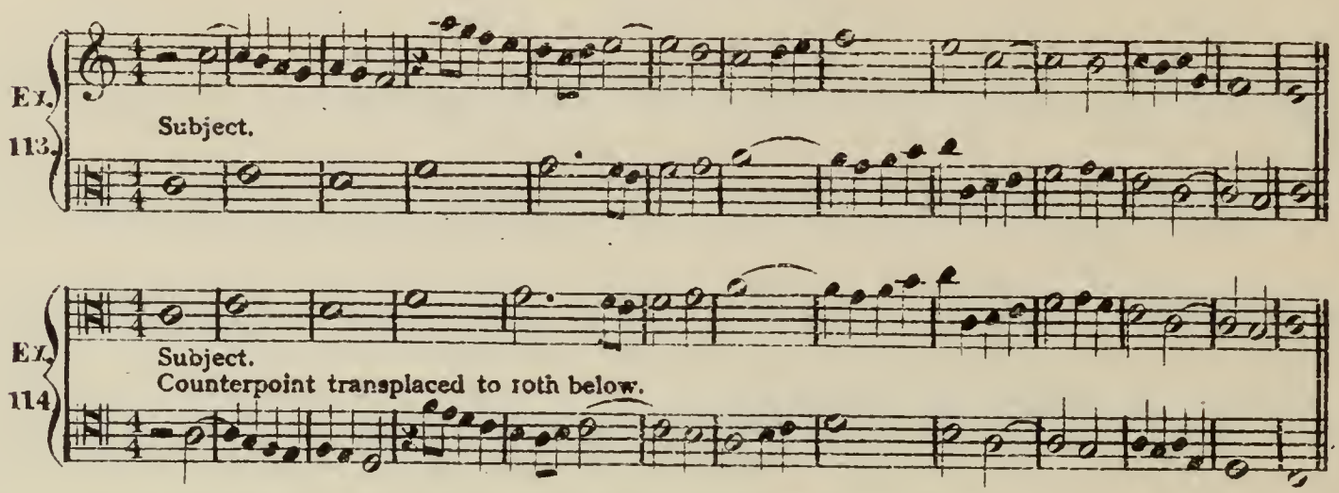
The 9th must be resolved by the octave or 5th

Ex. 111.



Ex. 112.





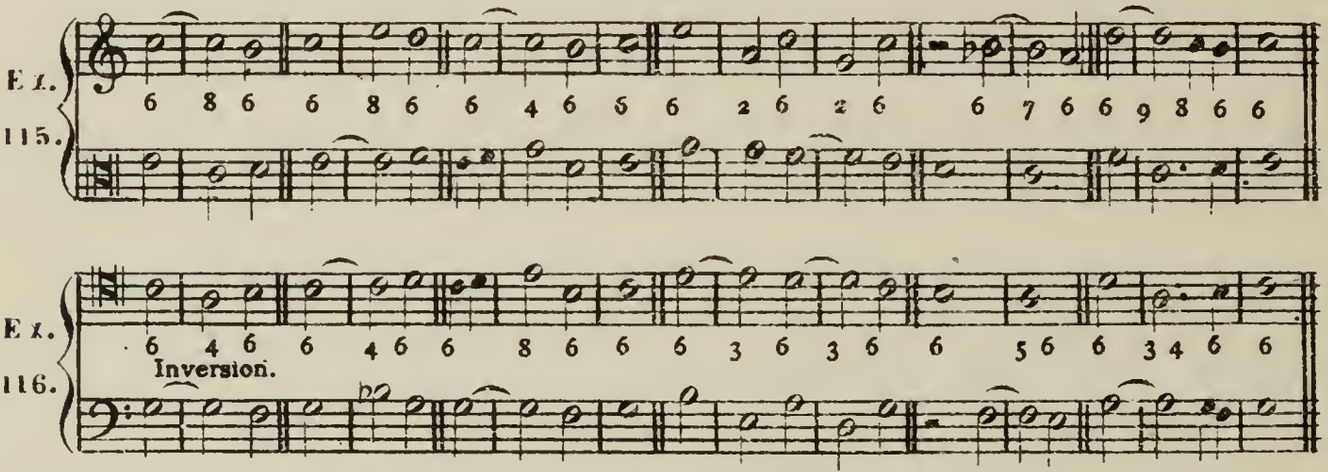
Double counterpoint in the octave and tenth are the ones most in use.

DOUBLE COUNTERPOINT IN THE ELEVENTH OR FOURTH.

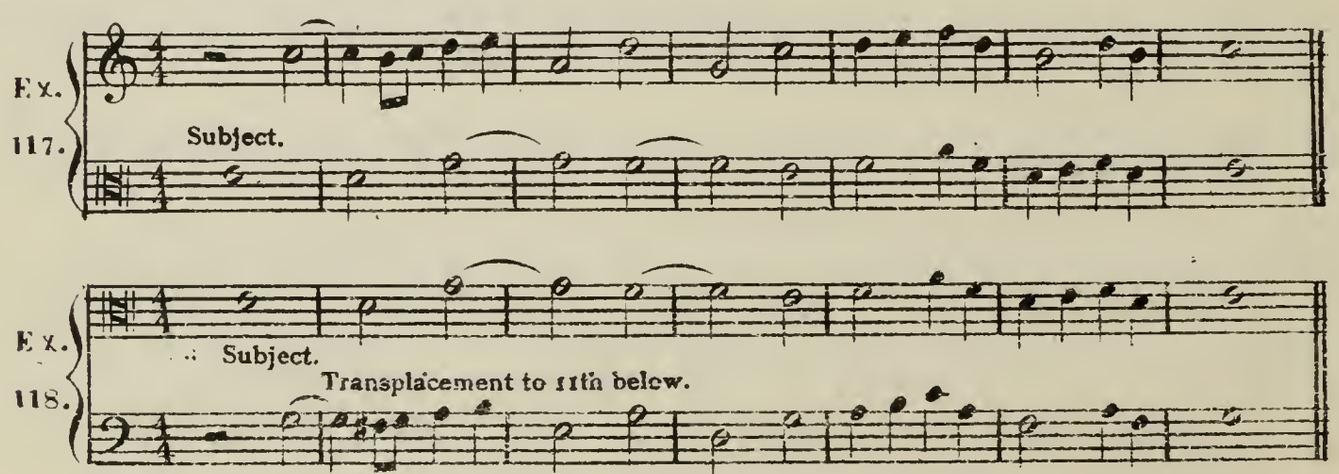
Double counterpoint in the 11th or 4th is found in the usual manner:

1 2 3 4 5 6 7 8 9 10 11
11 10 9 8 7 6 5 4 3 2 1

The 6th is in this kind of counterpoint the principal interval. It is by this interval that not only the discords must be prepared and resolved, but also the concords, which become discords by transplacement. Furthermore, it is by the interval of the 6th that we should begin and end. The interval of the 11th forms the limit of this counterpoint.



Double counterpoint in the 11th, notwithstanding it meets with so few objections, is rarely used on account of the monotonous predominance of the 6th.



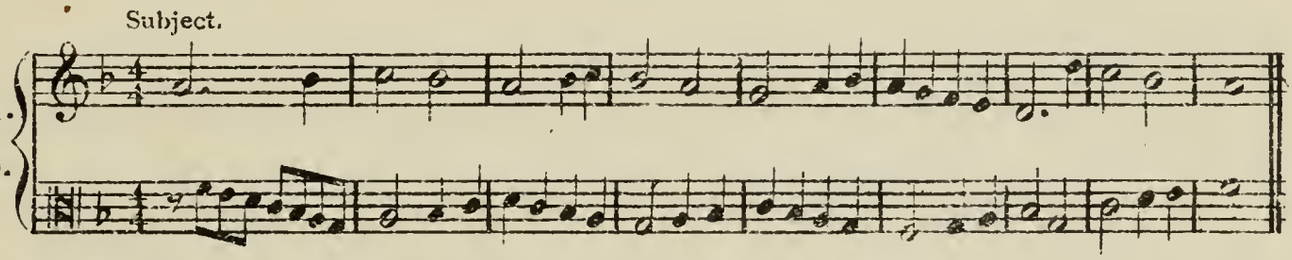
DOUBLE COUNTERPOINT IN THE TWELFTH OR FIFTH.

The following are the two rows of figures which must be compared in order to obtain double counterpoint in the 12th or 5th :

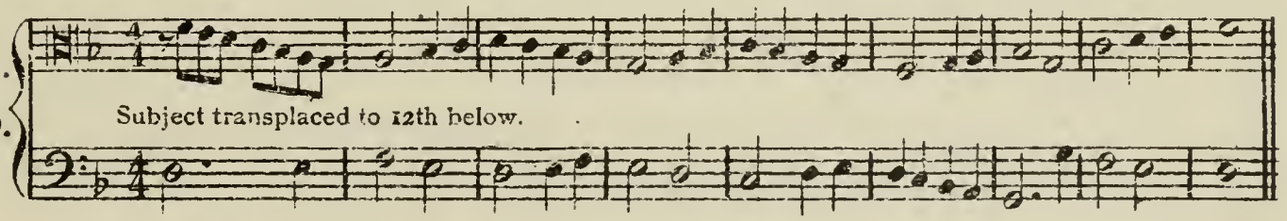
1 2 3 4 5 6 7 8 9 10 11 12
12 11 10 9 8 7 6 5 4 3 2 1

It will be seen that the unison changes into the 12th, the 2d into an 11th, the 8th into a 5th, etc. The 6th, which by transplacement becomes a 7th, should be prepared, then descend one note. This counterpoint is one of the most used, and one of the most fertile in resources.

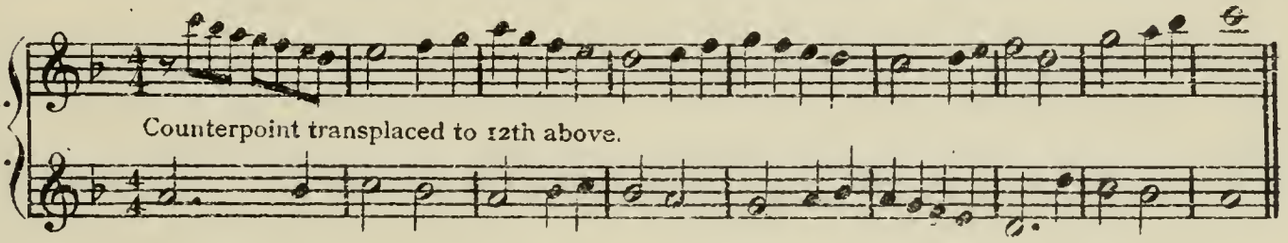
Ex. 119.



Ex. 120.



Ex. 121.



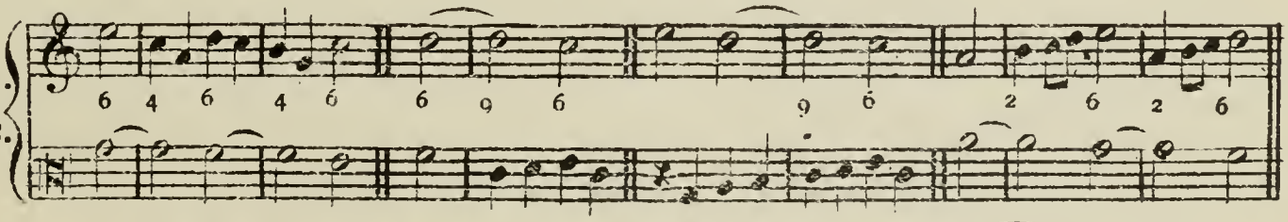
DOUBLE COUNTERPOINT IN THE THIRTEENTH OR SIXTH.

In double counterpoint in the 13th or 6th, we place two rows of figures in the following manner :

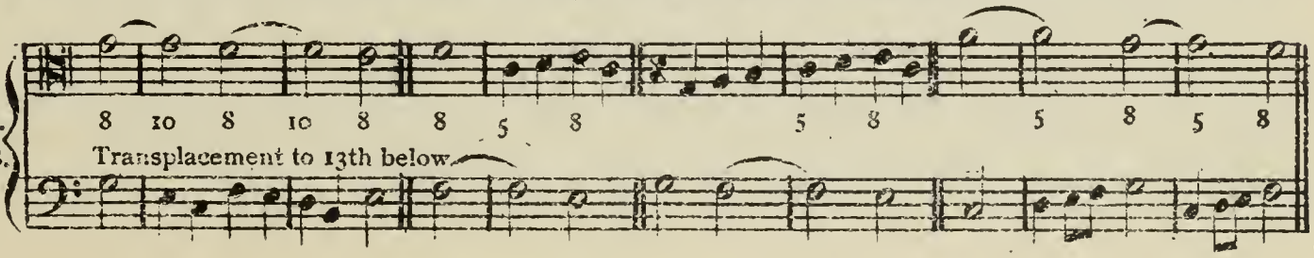
1 2 3 4 5 6 7 8 9 10 11 12 13
13 12 11 10 9 8 7 6 5 4 3 2 1

Consecutive 6ths must not be employed, as their transplacement would produce consecutive octaves. As the 7th cannot be resolved in the usual manner, it must be employed as a passing discord. The 2d, 3d, 4th, 5th and 9th must be prepared by the 6th or 8th, either above or below.

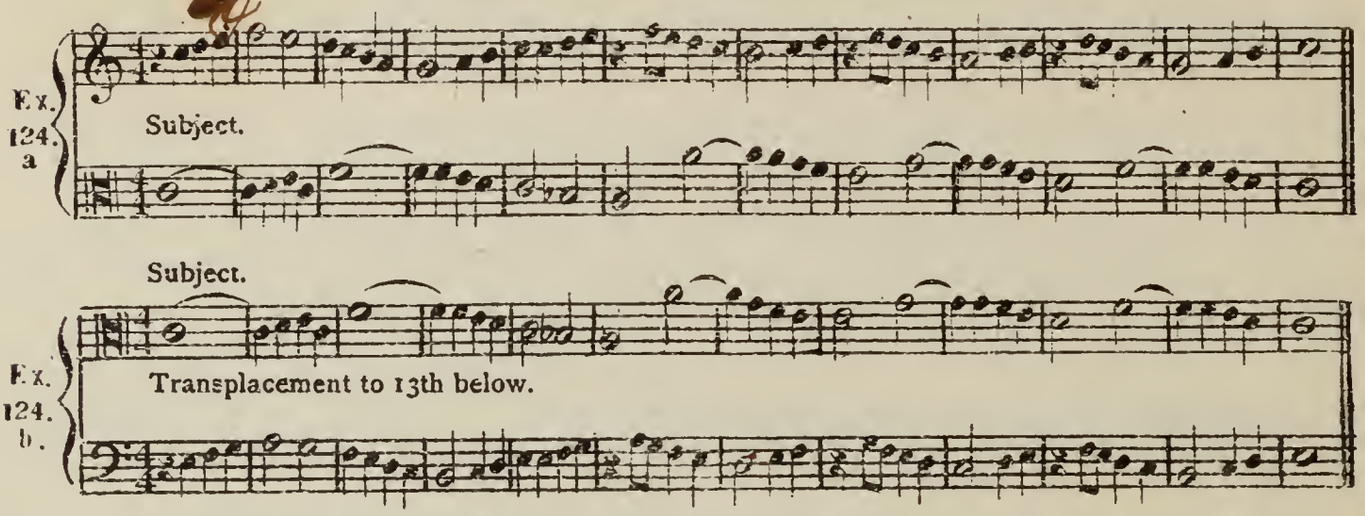
Ex. 122.



Ex. 123.



The interval of the 13th is the limit of this kind of double counterpoint.

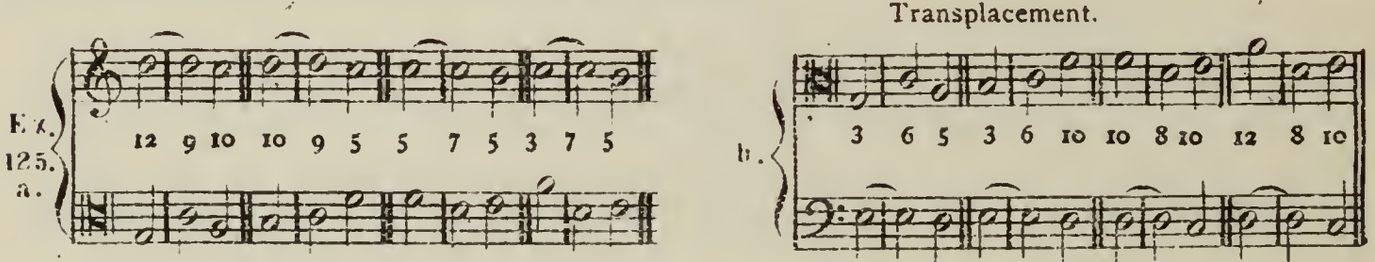


DOUBLE COUNTERPOINT IN THE FOURTEENTH OR SEVENTH.

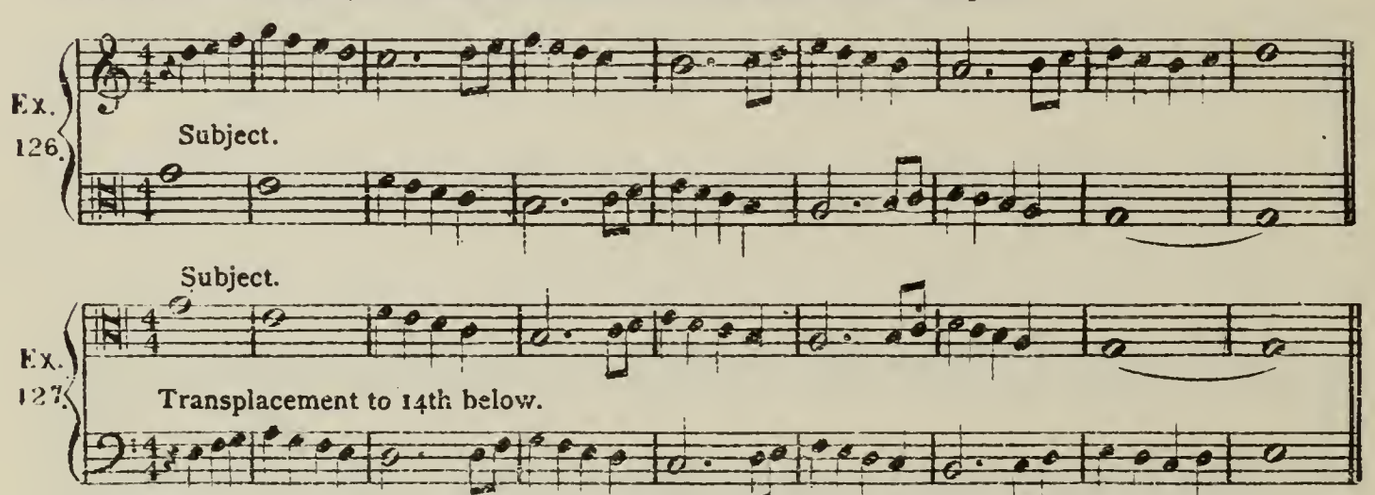
The following are the two rows of figures which will give the transplacement in double counterpoint in the 14th or 7th:

1 2 3 4 5 6 7 8 9 10 11 12 13 14
14 13 12 11 10 9 8 7 6 5 4 3 2 1

In this kind of counterpoint, consecutive 3ds will by transplacement produce consecutive 5ths, and therefore must not be used. The 8th, 6th and other concords which become discords when transplaced, should be prepared either by the 3d or 5th.



The interval of the 14th serves as the limit of this kind of counterpoint.



The counterpoint of the 15th is but a repetition of the octave, the 16th of the 9th, etc.

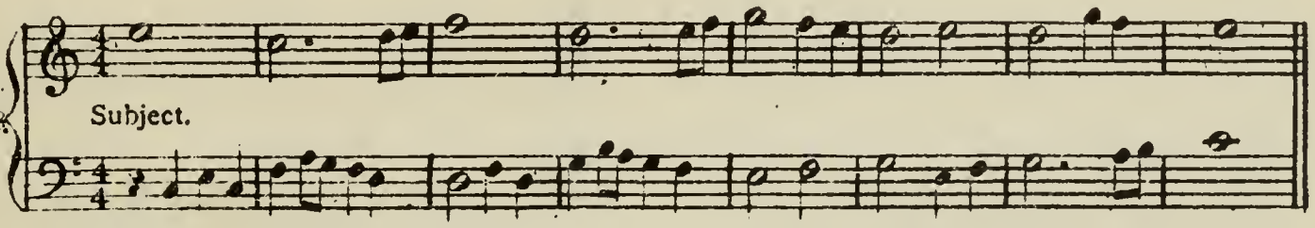
TRIPLE AND QUADRUPLE COUNTERPOINT.

Double counterpoint is naturally in two parts, triple counterpoint in three parts, and quadruple counterpoint in four parts. The octave, 10th and 12th are the ones most in use, and the rules given for these counterpoints will serve as guides for those not mentioned.

TRIPLE AND QUADRUPLE COUNTERPOINT IN THE OCTAVE.

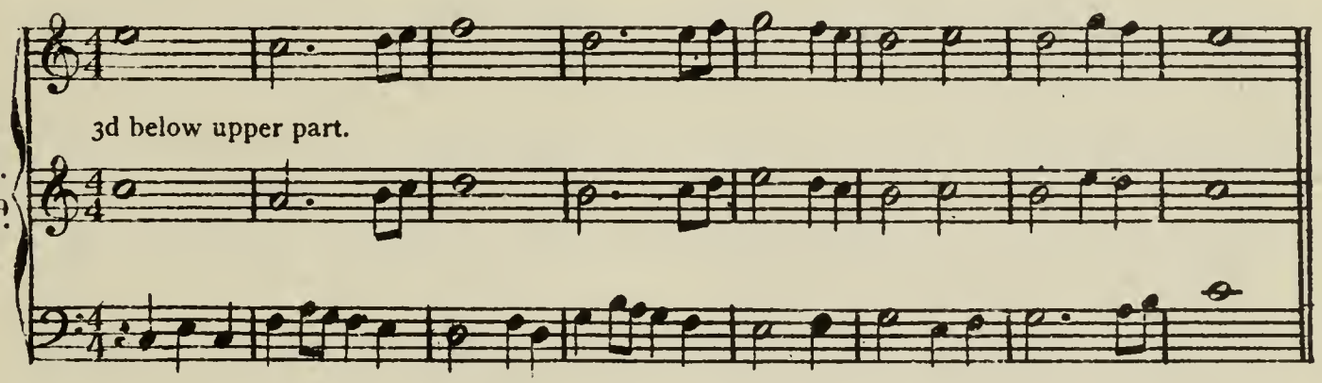
There are two ways of composing these counterpoints—the first way consists in adding to a double counterpoint one or more parts proceeding in 3ds, either with the lower part or upper part. Double counterpoint, in order to be susceptible of receiving these two parts in 3ds, or even one part, must be constructed according to certain rules. Firstly, it must not contain two consecutive 3ds or two consecutive 6ths, and should be entirely written in either *contrary* or *oblique* motion throughout. Secondly, it should contain no discords but passing ones.

Ex. 128.

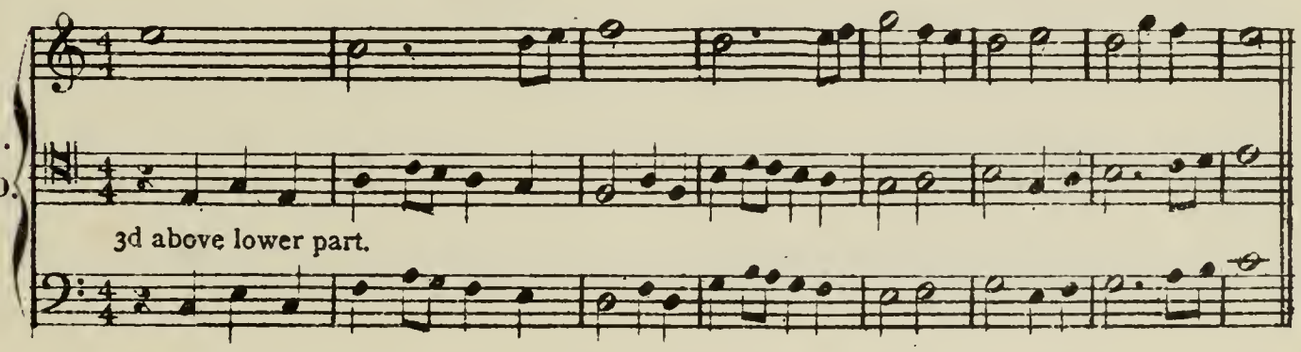


In order to transform this double counterpoint into triple counterpoint, it is only necessary to add *one* other part, either a 3d *below* the *upper* part, or a 3d *above* the *lower* part.

Ex. 129.

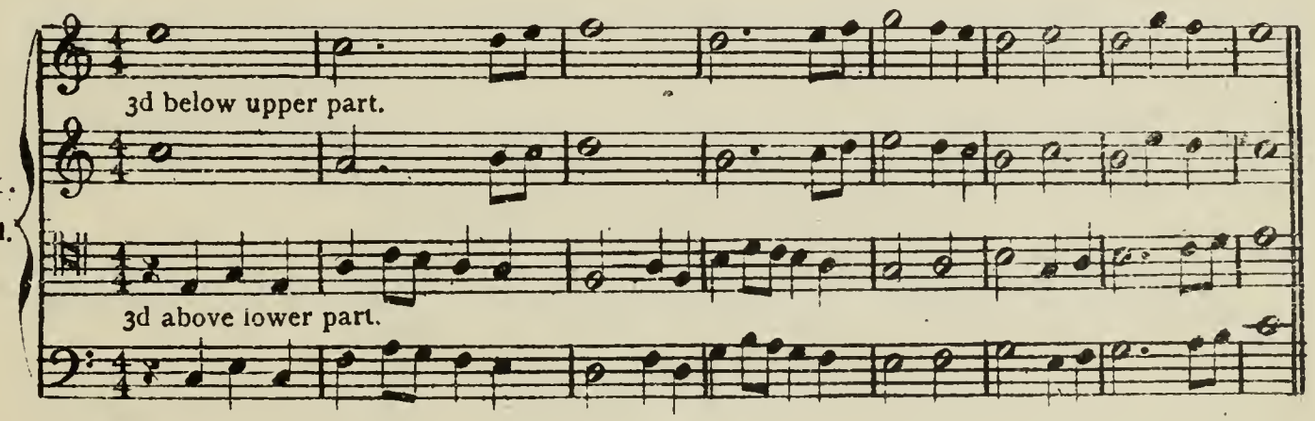


Ex. 130.



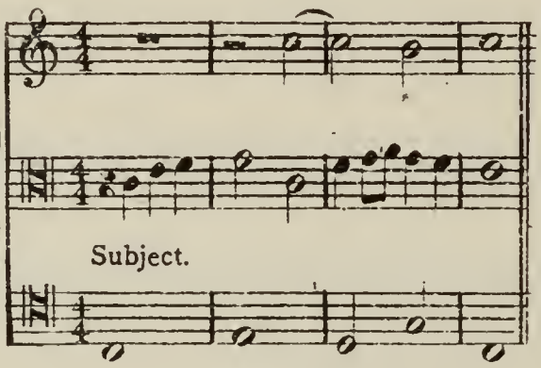
To transform double counterpoint into quadruple counterpoint, there must be added to the two principal parts *two* other parts, one a 3d *below* the *upper* part and the other a 3d *above* the *lower* part.

Ex. 131.

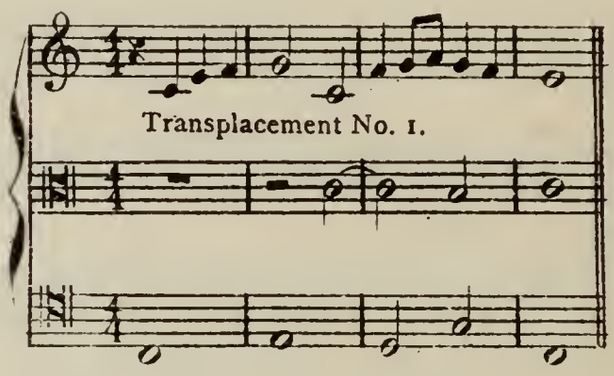


The second way of introducing triple and quadruple counterpoint consists in combining the parts in such a manner that they may be transplaced either above or below without changing the subject, and without there arising the least objectionable point or the slightest infringement of the strictest rules.

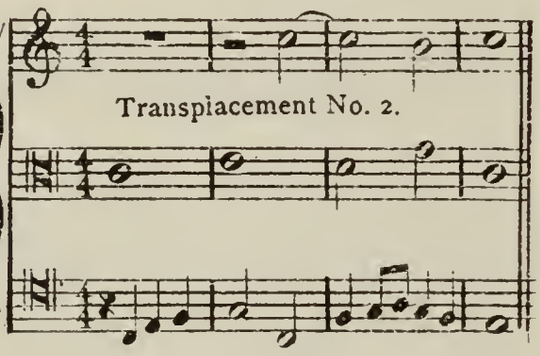
Ex. 132.



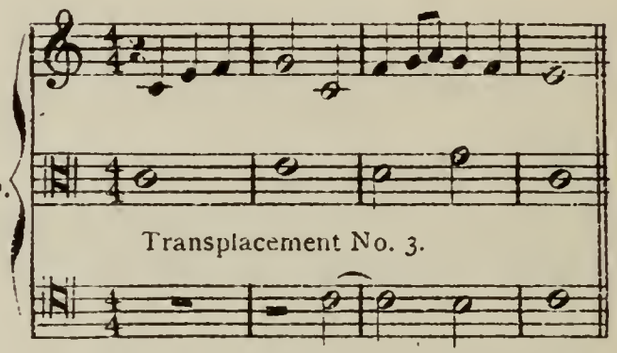
Ex. 133.



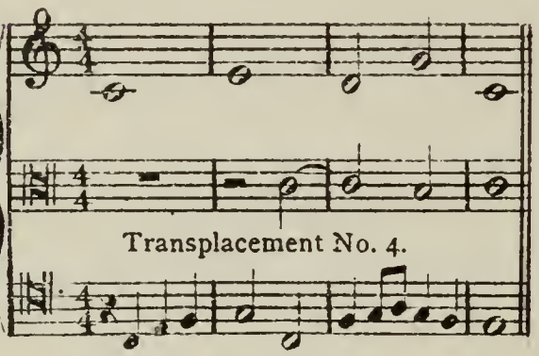
Ex. 134.



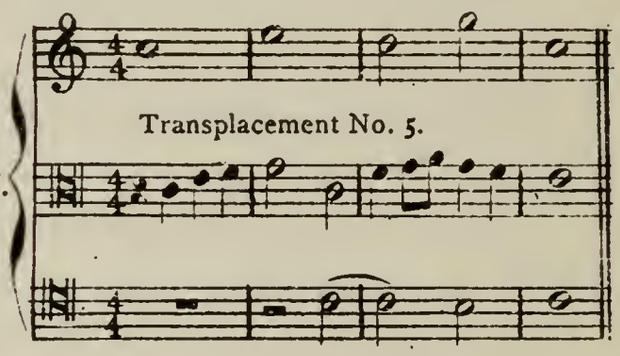
Ex. 135.



Ex. 136.



Ex. 137.

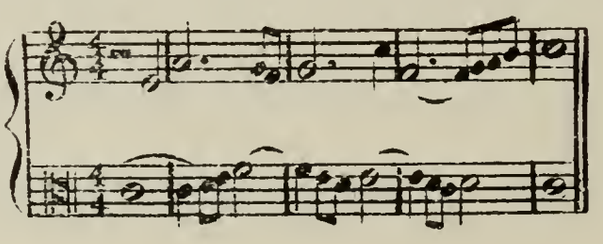


The octave is the only interval which adapts itself to true triple and quadruple counterpoint. Quadruple counterpoint in the 8th admits of 24 transplacements.

TRIPLE AND QUADRUPLE COUNTERPOINT IN THE TENTH.

Triple and quadruple counterpoint in the tenth will be obtained by observing the rules already given for double counterpoint in the 10th as well as the laws of contrary and oblique motion.

Ex. 138.

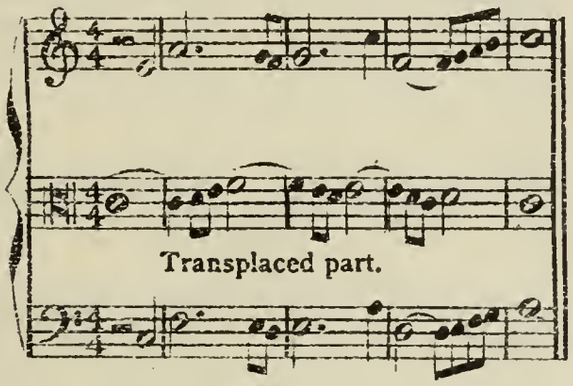


In order to convert this double counterpoint into triple counterpoint, we add to these two parts a new part, formed by transplacing the upper part of the double counterpoint a 10th below.

For quadruple counterpoint in the 10th, we add to these three parts still another part, a 10th below the lower part of the double counterpoint.

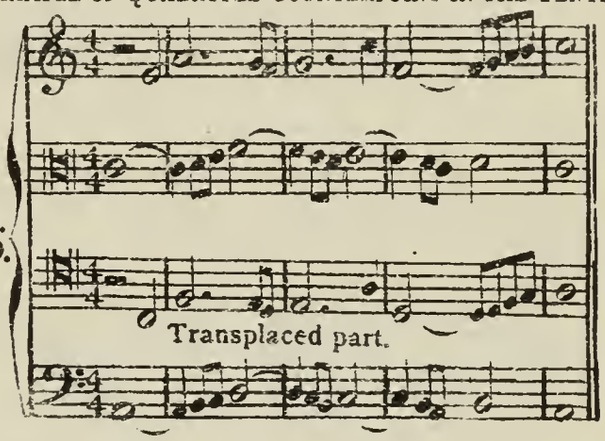
EXAMPLE OF TRIPLE COUNTERPOINT IN THE TENTH.

Ex. 139.



EXAMPLE OF QUADRUPLE COUNTERPOINT IN THE TENTH.

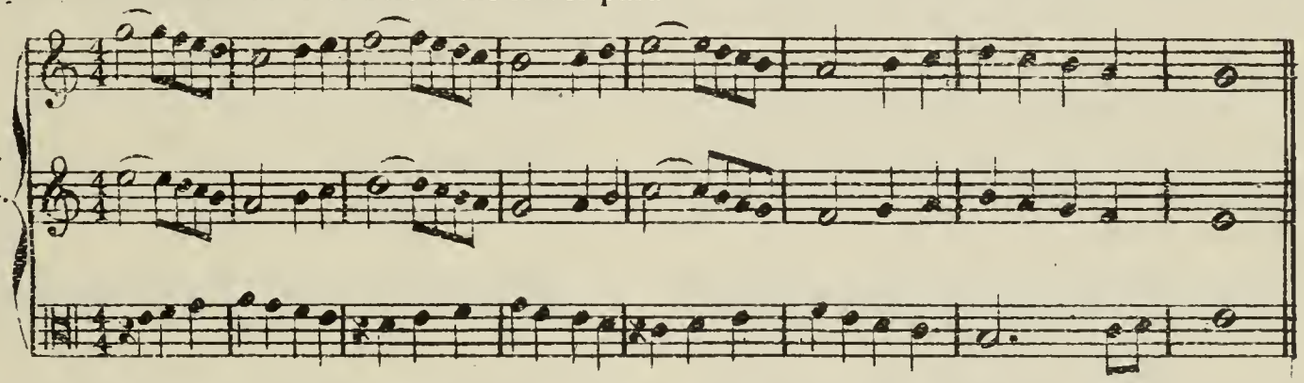
Ex. 140.



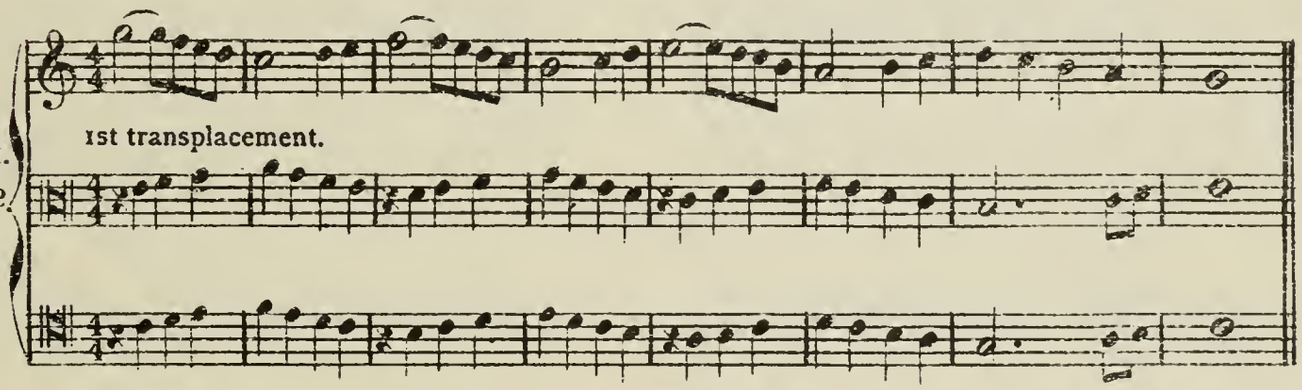
TRIPLE AND QUADRUPLE COUNTERPOINT IN THE TWELFTH.

In order to obtain triple and quadruple counterpoint in the 12th it will be necessary to avoid discords, unless they are passing ones, and *scrupulously* observe contrary and oblique motion. To form a triple from a double counterpoint, there need only be added a third part, either a third below the upper part, or a third above or below the lower part.

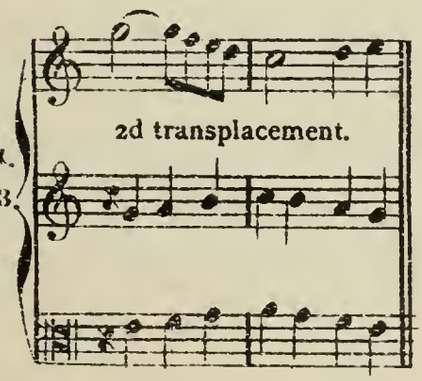
Ex. 141.



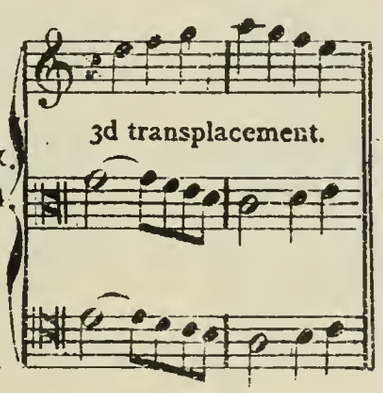
Ex. 142.



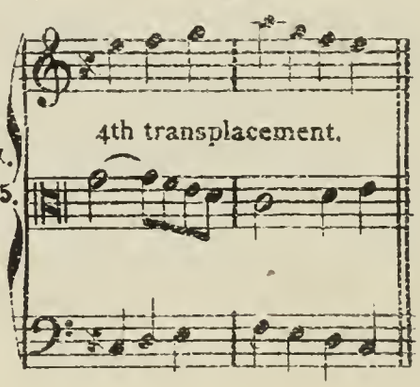
Ex. 143.



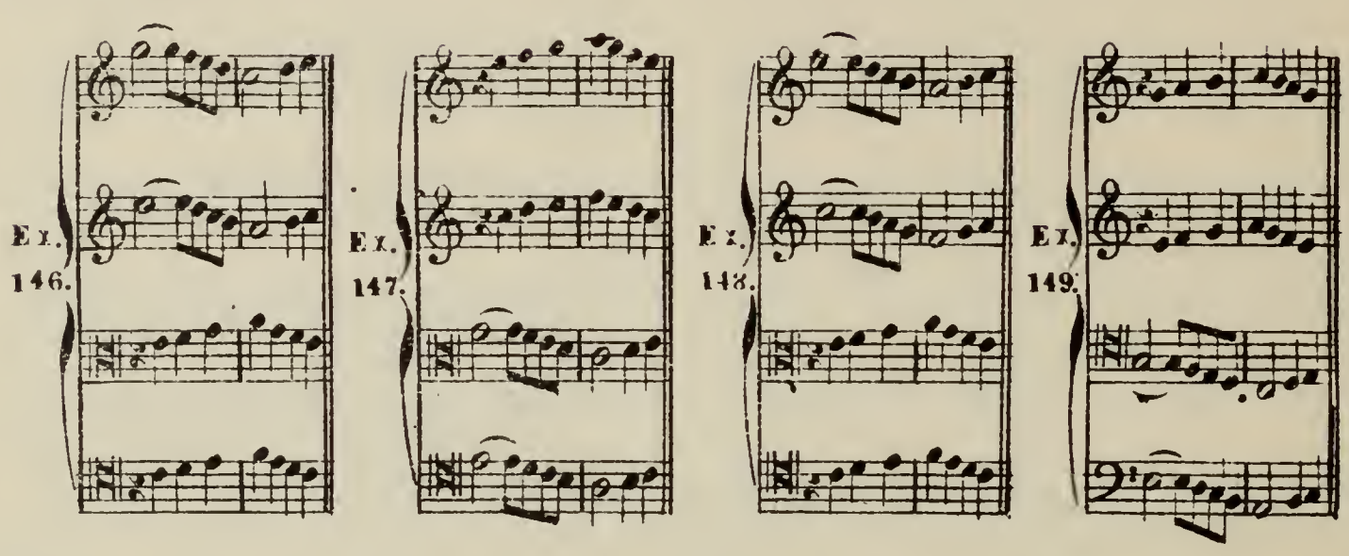
Ex. 144.



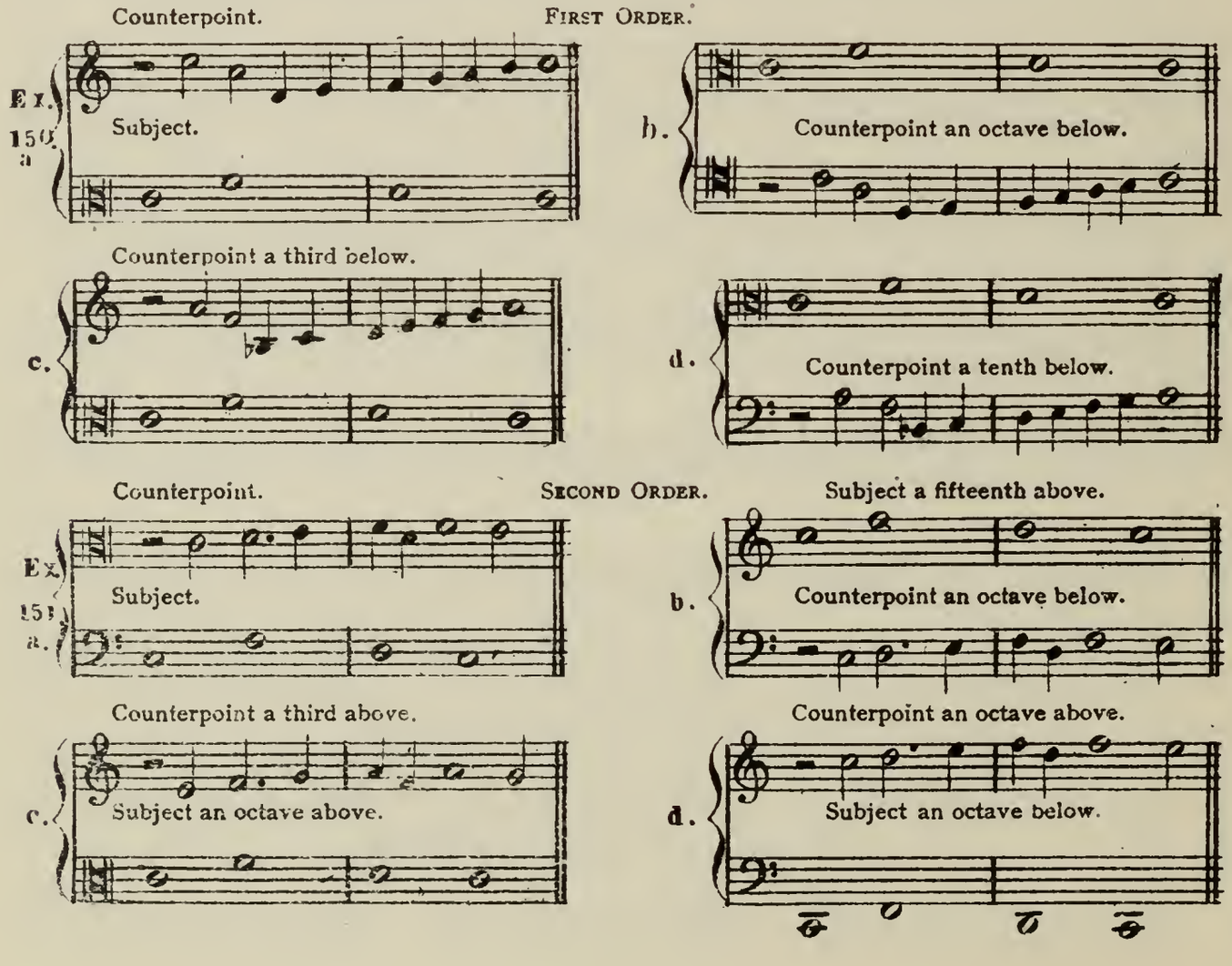
Ex. 145.



And for forming a quadruple from either a double of triple counterpoint, the following examples will serve as a guide.



Triple and quadruple counterpoint in the 10th and 12th are artificial, as the parts never admit of a complete transplacement. However, in the following examples from the learned Italian monk, Father Martini, the employment that should be made of them will be clearly seen.



Counterpoint a third above.

e. Subject a third above.

Subject.

Counterpoint an octave above

f. Counterpoint a third above.

Subject.

THIRD ORDER.

Counterpoint.

Ex. 152. a. Subject.

Contrary motion.

b. Counterpoint a 3d above, contrary motion. Subject an octave above.

Counterpoint an octave below.

c. Subject a fifth above, contrary motion.

Counterpoint a 3d below, contrary motion.

d. Subject a tenth above, contrary motion.

Counterpoint.

e. Subject a fifth above, contrary motion.

Subject.

Counterpoint an octave above.

f. Subject an octave above.

Subject a twelfth above, contrary motion.

FOURTH ORDER.

Counterpoint.

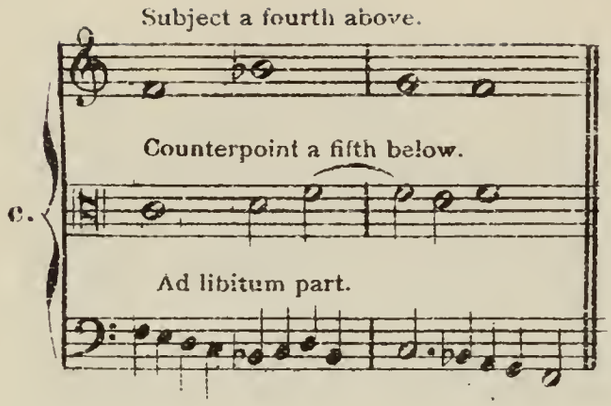
Ex. 153. a. Subject.

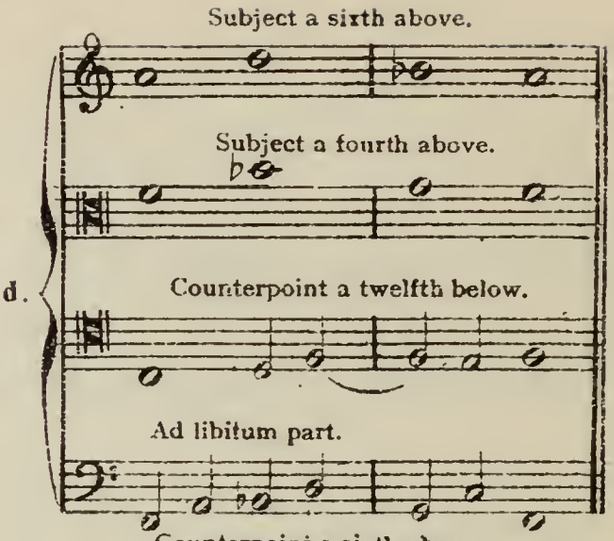
Ad libitum part.

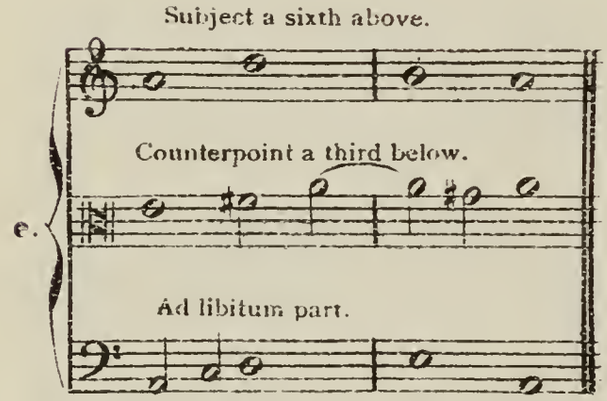
Subject an octave above.

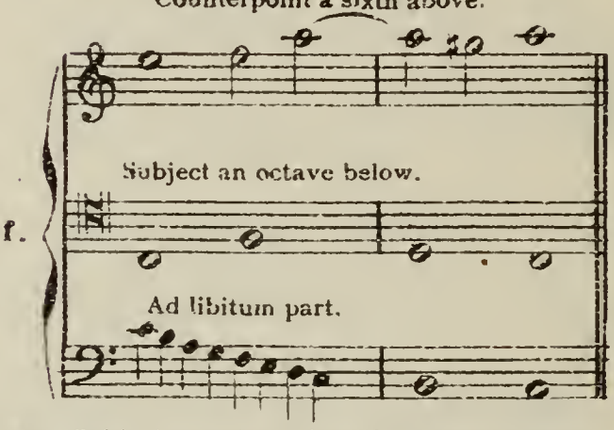
b. Counterpoint an octave below.

Ad libitum part.

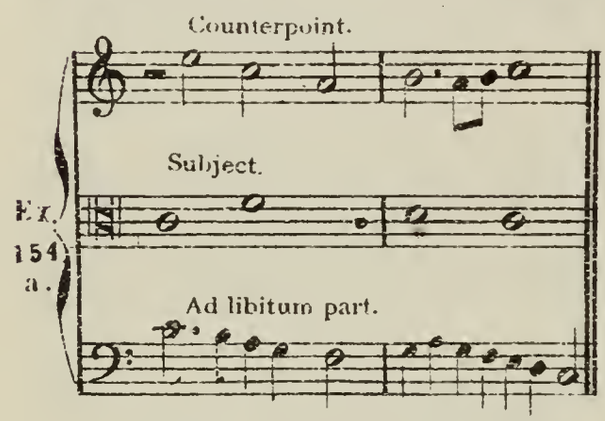


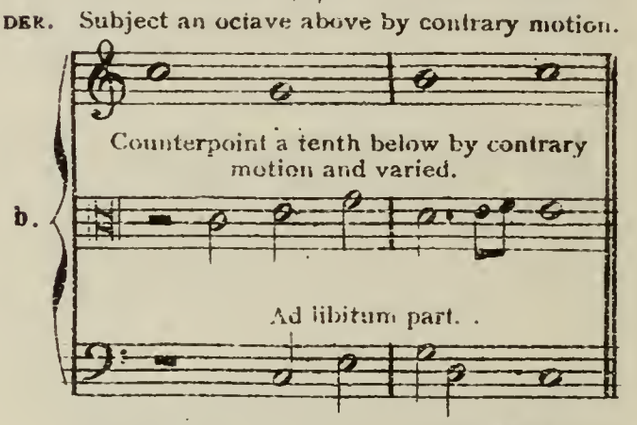


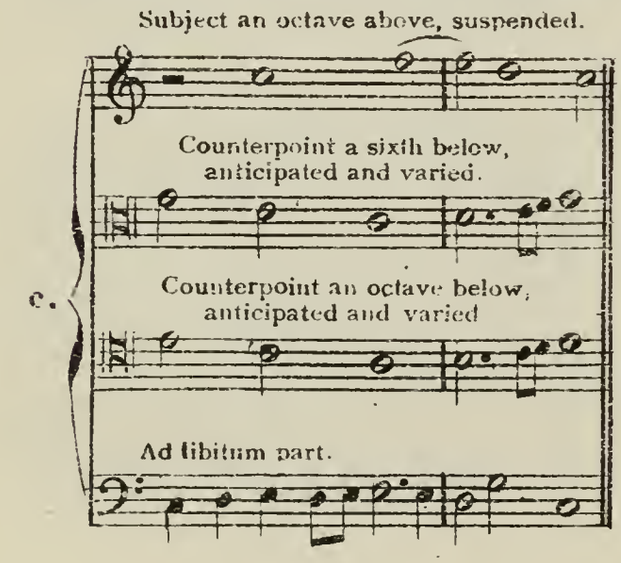


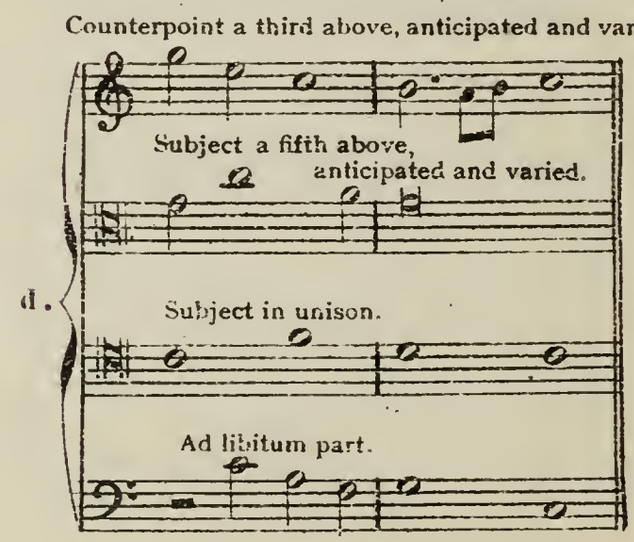


FIFTH ORDER. Subject an octave above by contrary motion.

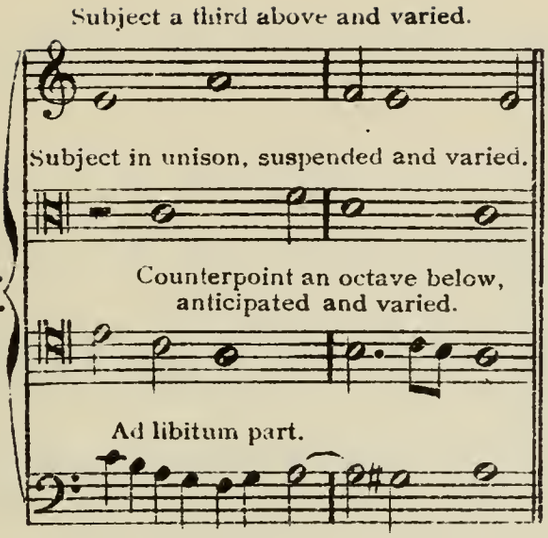




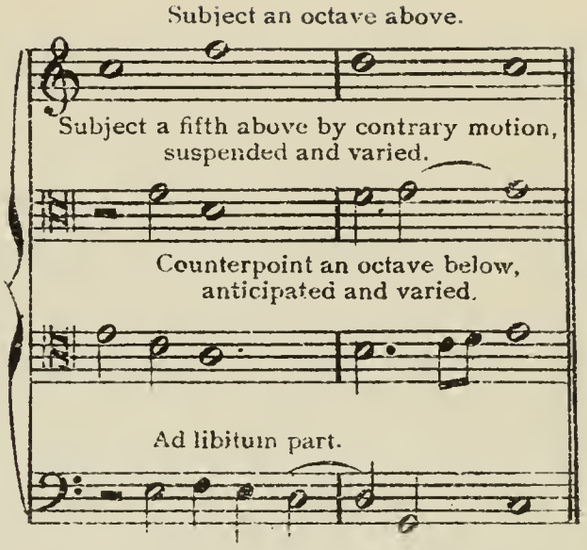




Ex. 155. a.


Subject a third above and varied.
Subject in unison, suspended and varied.
Counterpoint an octave below, anticipated and varied.
Ad libitum part.

b.


Subject an octave above.
Subject a fifth above by contrary motion, suspended and varied.
Counterpoint an octave below, anticipated and varied.
Ad libitum part.

PART FOURTH.

FUGUE.

Fugue is the perfection of counterpoint, and the transition between the system of *strict* counterpoint and that of free composition. It is the true basis of all kinds of musical composition.

Fugue is derived from the Latin word "*fuga*," signifying flight. It is a name applied either to a vocal or instrumental composition or both, in which one part leads through some determined succession of notes called the Subject. This subject being answered in the 5th or 8th by other parts, is interspersed throughout the fugue, and distributed among all the parts at the pleasure of the composer.

With the ancient composers, "*fugue*" was not used in the sense that it now is. What they termed fugues were contrapuntal imitations with *Cantus firmus* or the plain song as subjects. At a later day, the name of fugue was given to a developed and regular composition, based upon the construction of the present diatonic scale.

There are three distinct classes of fugue: the Simple Fugue, the Double Fugue, and the Counter Fugue.

The Simple Fugue contains *one* subject: it is the least elaborate in its construction and easiest in its composition.

The Double Fugue contains *two* subjects, occasionally intermingled, or moving together.

The Counter Fugue is that fugue in which the subjects move contrary to each other.

There are *two* principal kinds of fugue, from which springs a third, and this latter generates all the rest.

The two principal kinds are *Tonal* and *Real Fugue*, and the third, *Fugue of Imitation*; all the remainder are *Irregular Fugues of Imitation* or *Pieces in Fugal Style*.

The *indispensable* conditions of fugue are the Subject, Response, Counter-subject, Stretto and Pedal-note.

In order to write a fugue for two parts in its simplest form, first choose a subject suitable to the key in which you intend to compose, and write it down in the tonic in that voice or part in which you wish to commence. This done, repeat the same subject in the dominant in the other part, and place such counterpoint in the first part as will agree with the subject in the second part, according to the rules of florid counterpoint. After continuing some bars, regulate the cadence so that the subject can be resumed in the tonic.

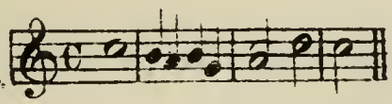
The number and variety of devices which can be introduced into a fugue depend upon the knowledge and ingenuity of the composer, and at the same time upon the nature of the subject and counter-subject. These devices consist in the employment of imitations formed by detaching portions of the subject; or by the transplacement of the subject into different intervals, and the advantages which may be derived from this in double counterpoint; or in the inversion of the subject by contrary motion; or in a new subject which may be introduced and combined with the first subject and counterpoint; or in the manner of combining the stretto in several ways, each time more and more closely approaching the response to the subject; or in the means which may be employed to let the subject be heard simultaneously with its inversion by contrary motion; or in the combination of the subject, counter-subject and stretto upon the pedal-note, and lastly, in the skill and taste with which these devices are interwoven and brought in throughout the extent of the fugue.

All these combinations can be employed in the study fugue, but in a composition fugue there should be a judicious selection of them, as without this precaution it would prove too long and tedious.

SUBJECT.

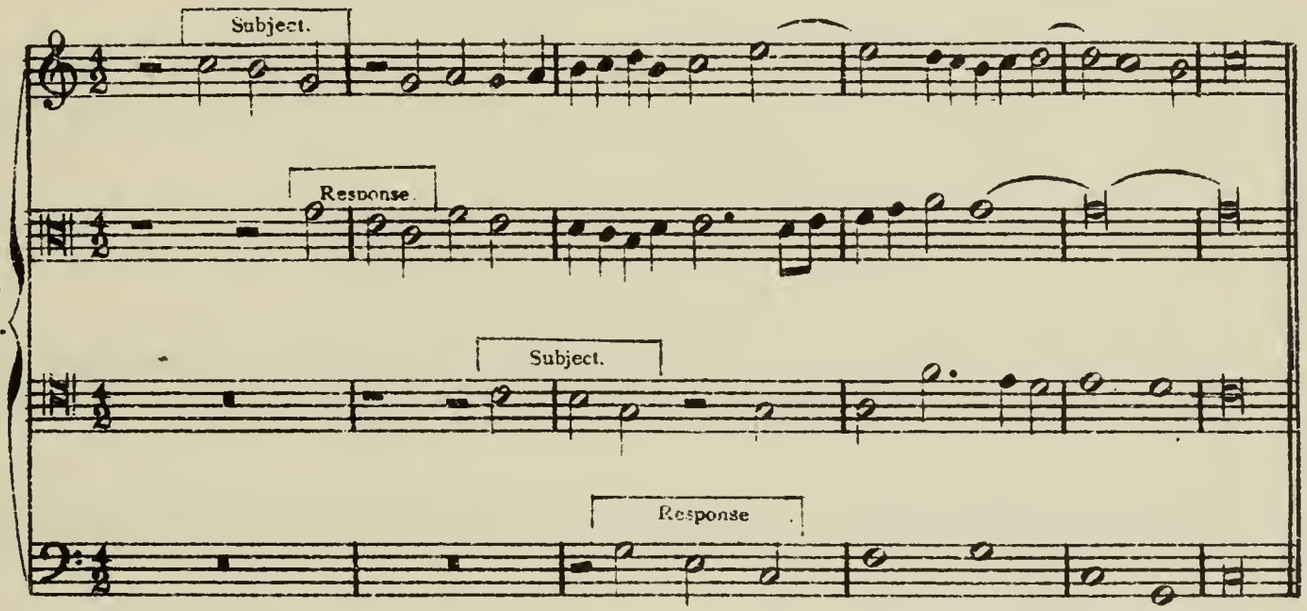
The subject of the fugue should be so conceived that the ear may readily catch it and the memory easily retain it, therefore pronounced and neither too long nor too short.

Ex. 156.



The composer is at liberty to select whatever voice or part he pleases wherein to propose his subject. As a general rule, it will be best whenever the subject commences with the octave of the tonic and descends upon the dominant, to propose it in the highest part, and place the response in a lower part, or *vice versa.*

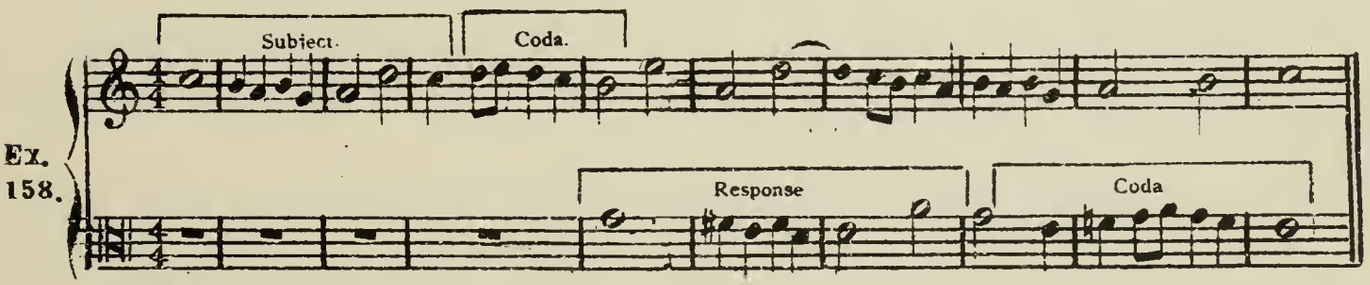
Ex. 157.



RESPONSE.

The response is in all respects similar to the subject, but occurs in another interval, usually in the dominant, which will be explained hereafter. The response should follow the subject immediately and by its character decide whether the fugue be tonal or real.

Ex. 158.

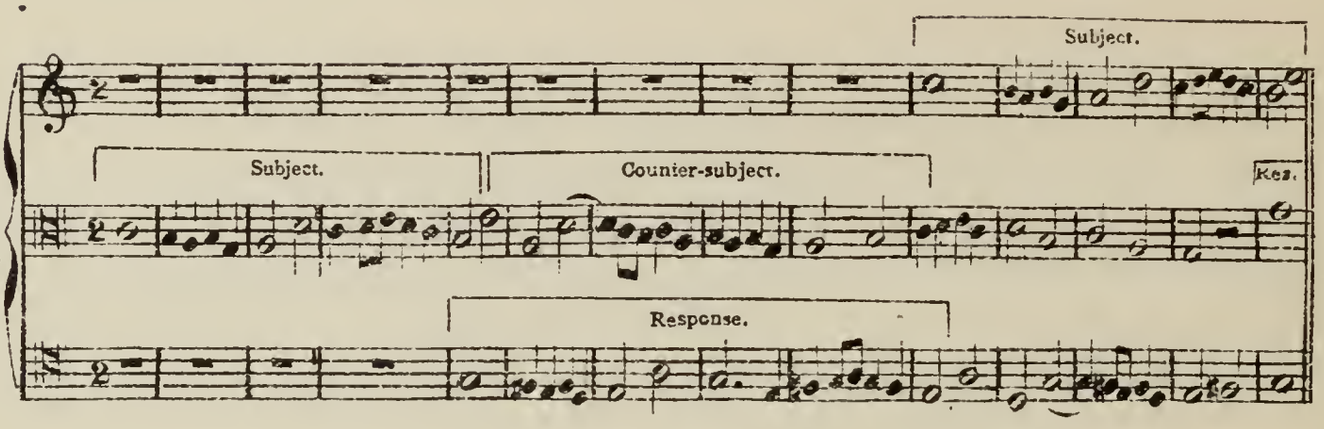


COUNTER-SUBJECT.

The counterpoint which is written to either the subject or response, is called the counter-subject. The counter-subject must be written in double counterpoint in the octave, that it may be transplaced from higher to lower, or *vice versa*; it should be in rhythmical contrast to the subject, though it is not always necessary that it should reappear exactly as it was originally composed;

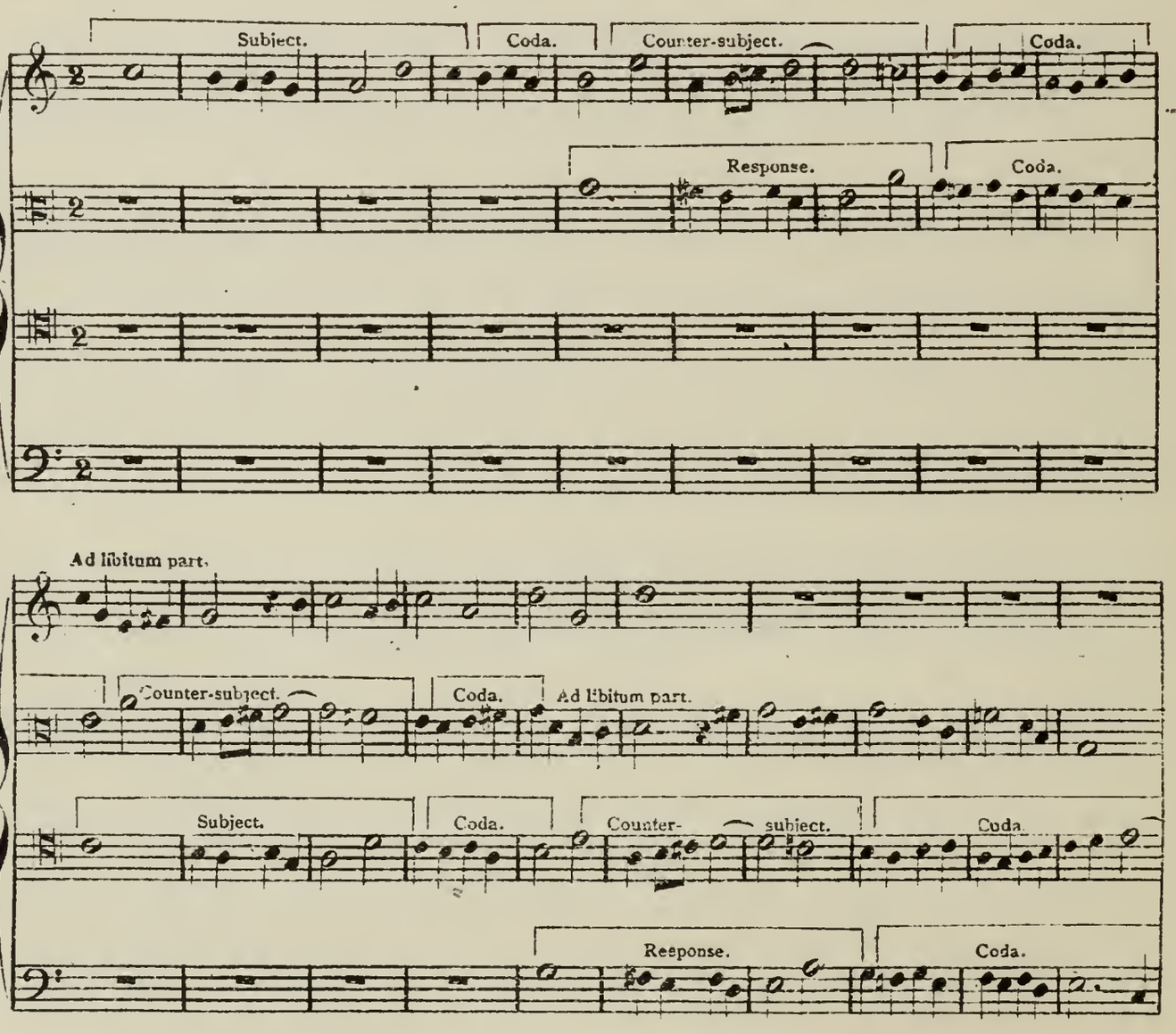
some notes may be changed, if it be advisable, for the sake of purity in the harmony, and strictness in the counterpoint.

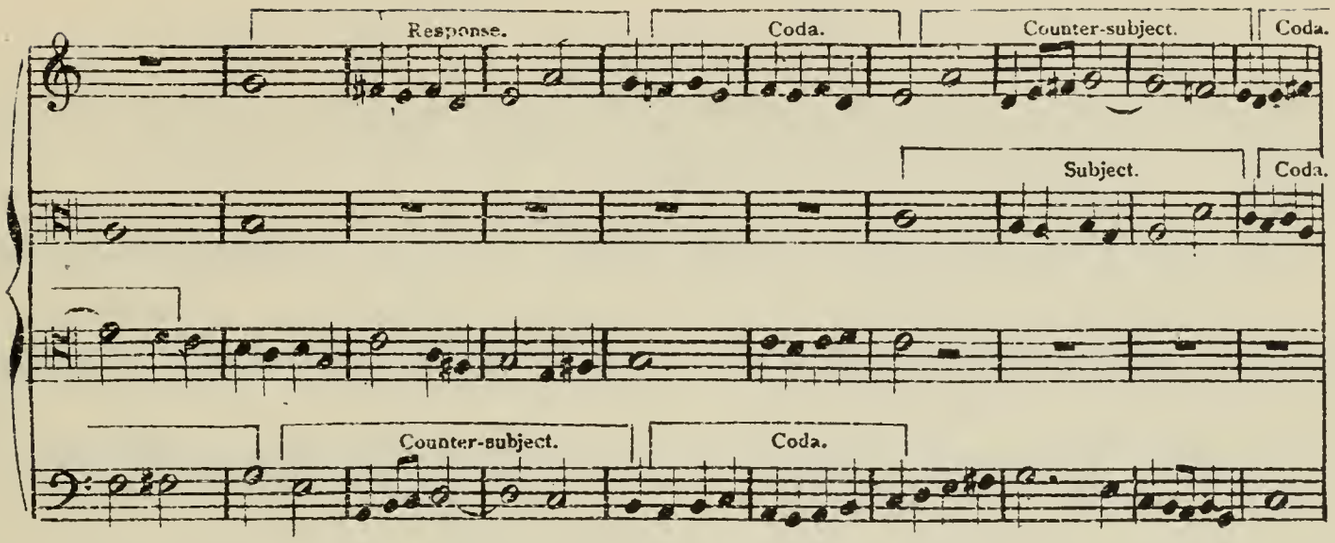
Ex. 159.



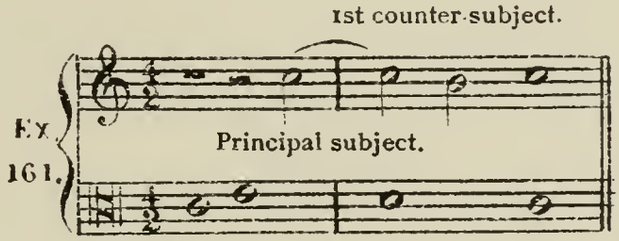
In two part fugue there is but one counter-subject, in three part fugue two counter-subjects, and in four part fugue three counter-subjects. The number of counter-subjects increases in proportion to the number of parts, but there can only be as many counter-subjects as there are parts exclusive of the parts which contain the subject and response. If a fugue of many parts has only one counter-subject, the other parts are called "*ad libitum*" parts, of which the melody may be varied each time.

Ex. 160.

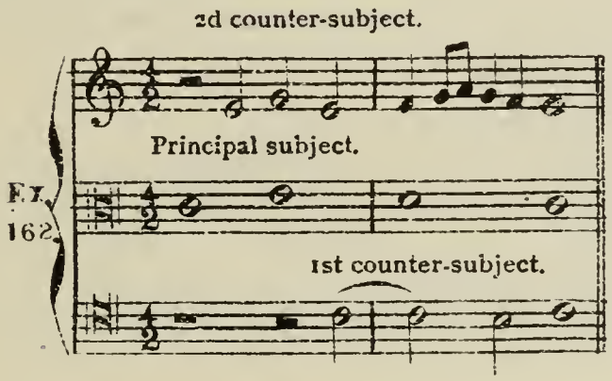


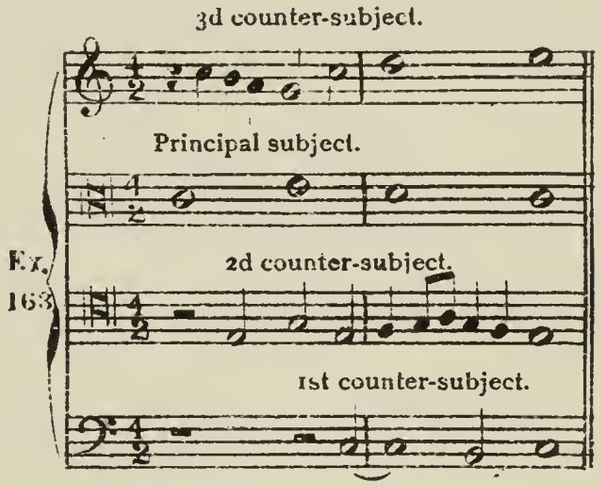


The counter-subject in a fugue ordinarily enters with the response, but there are cases where it enters simultaneously with the subject; this latter style is called a fugue of *one* subject, and *one* counter-subject.



When a subject is accompanied by two counter-subjects, it is called a fugue of *one* subject and *two* counter-subjects.



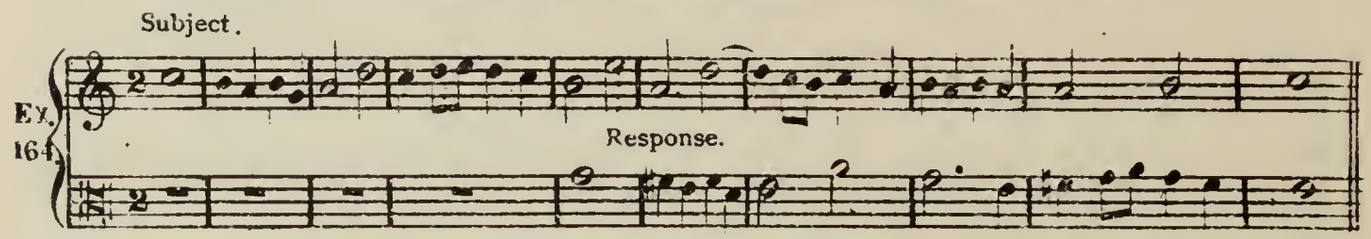


As previously stated, it is important to combine these counter-subjects according to the laws of double counterpoint, so as to be able to transplace from higher to lower, or *vice versa*.

STRETTO.

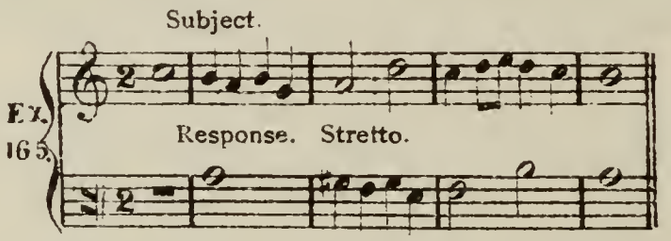
Stretto (Italian), signifies a contraction. It is used to indicate a device which consists in making the response approach as near as possible to the subject.

EXAMPLE OF RESPONSE ENTERED AFTER THE PERIOD OF THE SUBJECT IS TERMINATED.



The art of employing the stretto consists in varying its aspects and in inventing means, each time the stretto is introduced, of bringing the entrance of the response more and more closely to the commencement of the subject.

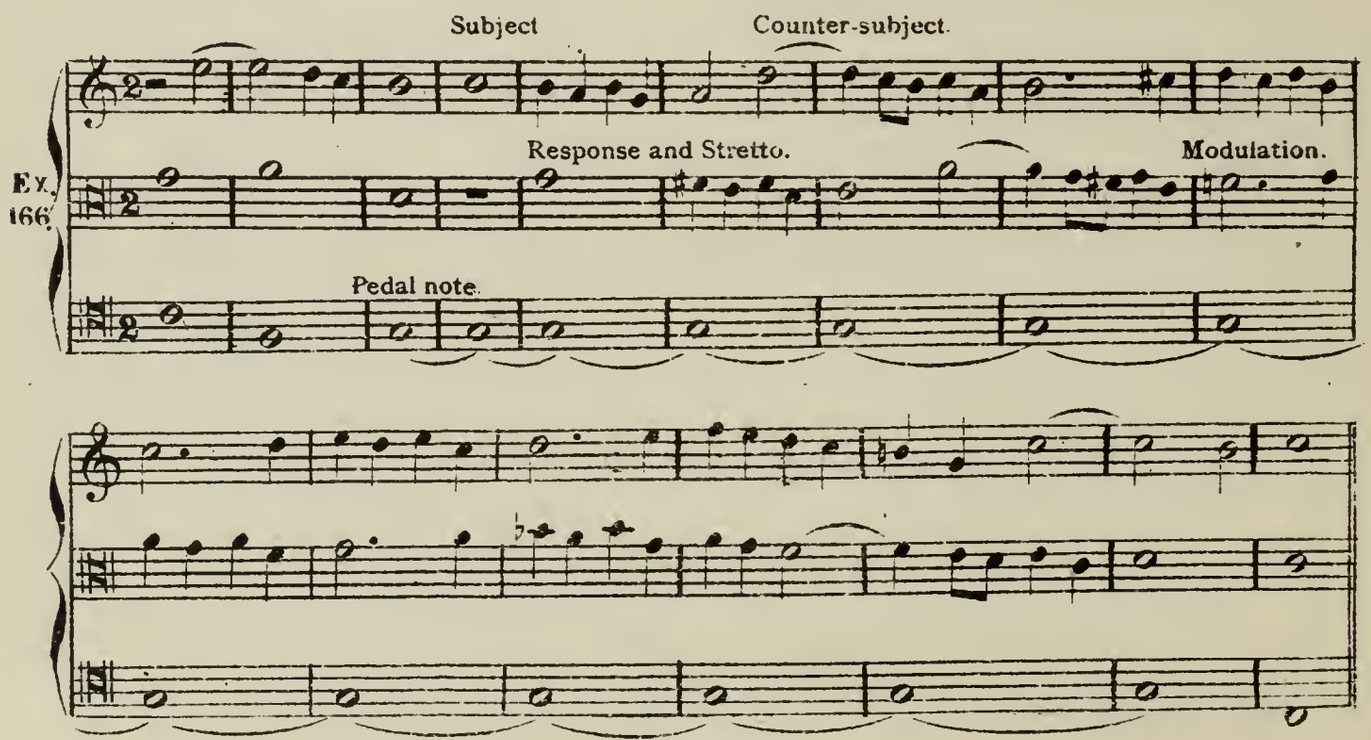
EXAMPLE OF THE RESPONSE ENTERING DURING THE PERIOD OF THE SUBJECT FORMING THE STRETTO



The effect which is produced is extremely attractive and sometimes very appealing. It is therefore necessary in composing a subject to allow scope for a stretto, both easy and harmonious As a last resort, if difficulties arise, changes are permitted in either the notes or their value.

PEDAL-NOTE.

The pedal-note is a tone prolonged and sustained through several bars. As a general rule, it occurs on the dominant at the end of a fugue and in the lowest part; however, it may be used also in the highest or middle parts. The pedal-note is a prolonged tone upon which should be combined in free composition the subject, counter-subject, stretto, and anything which may have been introduced in the course of the fugue. The composer is relieved of all the rigor of rules, he can use unprepared discords and modulations freely—provided they are resolved properly into each octave—*save in the last bar*, which *must* be in harmony with the pedal-note.

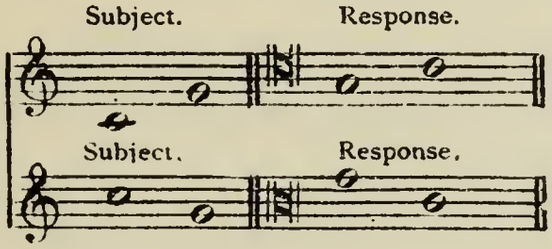


In two part fugue, the pedal-note is generally omitted.

TONAL FUGUE.

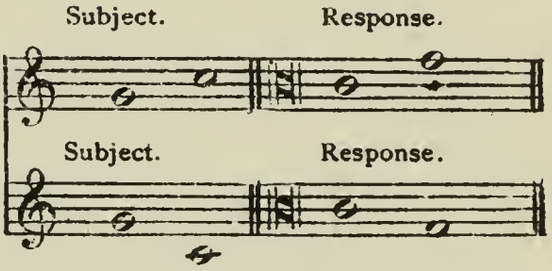
In the tonal fugue, the subject passes from the tonic to the dominant or from the dominant to the tonic. The response is not identically similar to the subject. If the subject commences with the tonic and ascends or descends toward the dominant, the response should commence with the dominant and ascend or descend toward the tonic.

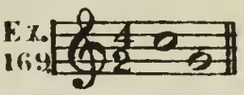
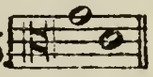
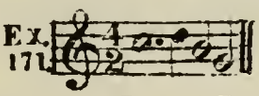
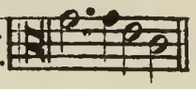
Ex. 167.



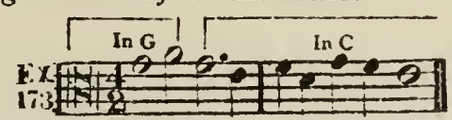
and *vice versa.*

Ex. 168.

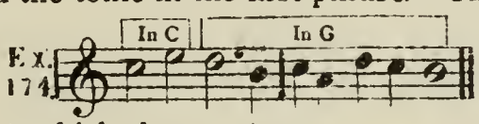


All melodious phrases of the subject which belong to the key of the tonic should be repeated in the response in the key of the dominant, or *vice versa.* To demonstrate this, the following subject is proposed according to the immediate rules of tonal fugue; Ex. 169.  the response is this: Ex. 170.  But if from this simple subject a more complicated one is deduced, Ex. 171.  according to what has been said above the response is: Ex. 172. 

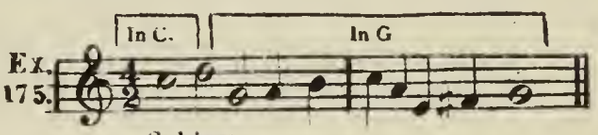
For the two notes D and B, in Example 171, added between the limits of the simple interval C and G and belonging to the chord of the dominant, should be replaced in the response (Example 172) by the two notes G and E belonging to the key of the tonic.

Here is another subject Ex. 173. 

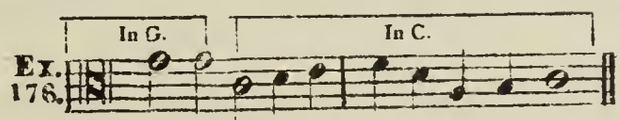
where there should be no change in the response other than from the first to the second note, because the subject which commences in the dominant does not proceed toward the tonic in the first phrase. This is the response:

Ex. 174. 

Here again is another subject which does not proceed in the first phrase from the tonic towards the dominant, but it proceeds so at the commencement of the second phrase. The D which terminates the first phrase belonging naturally by its descent upon the dominant to the key of G, should change into a G in the response.

Ex. 175. 

Subject.

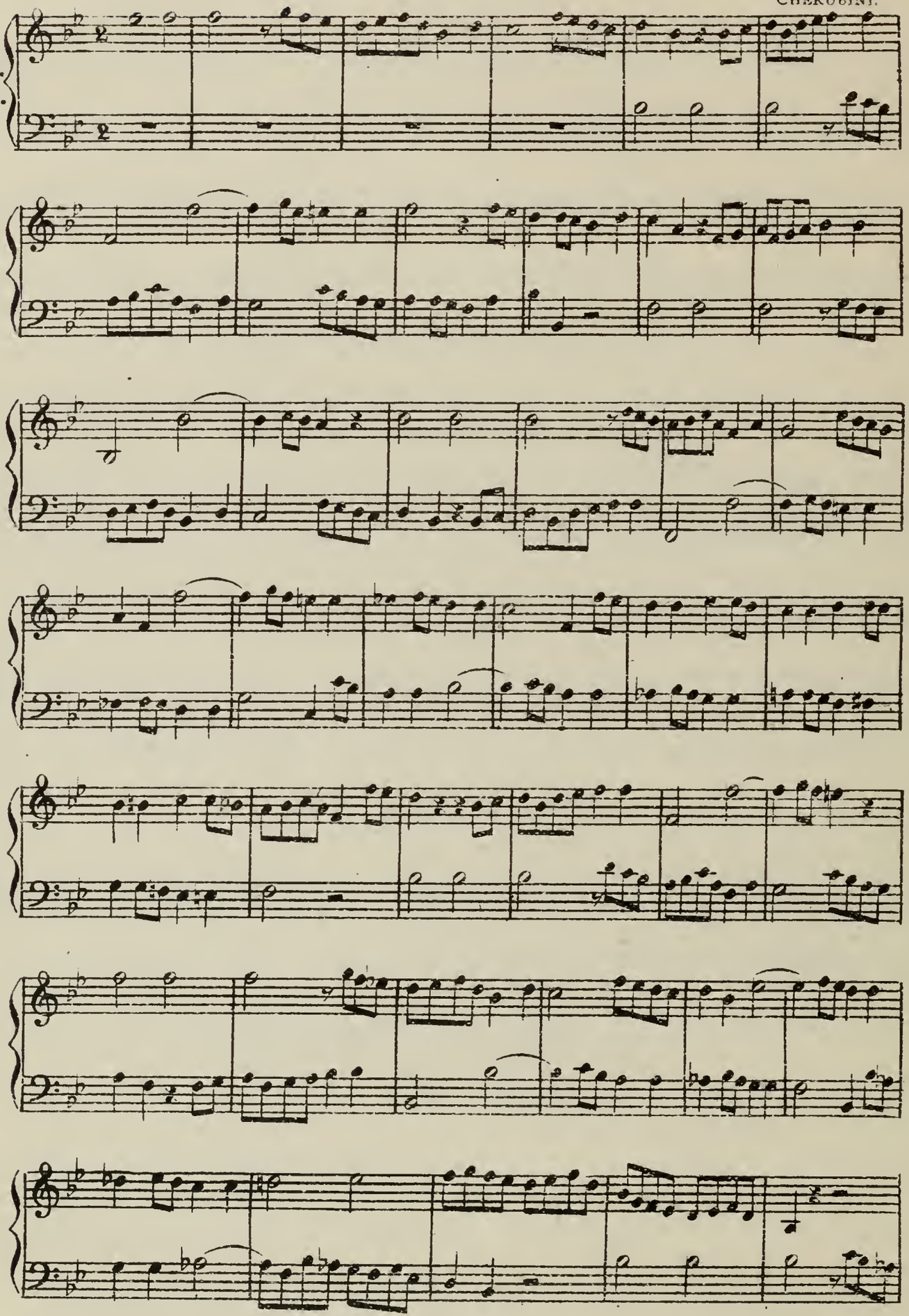
Ex. 176. 

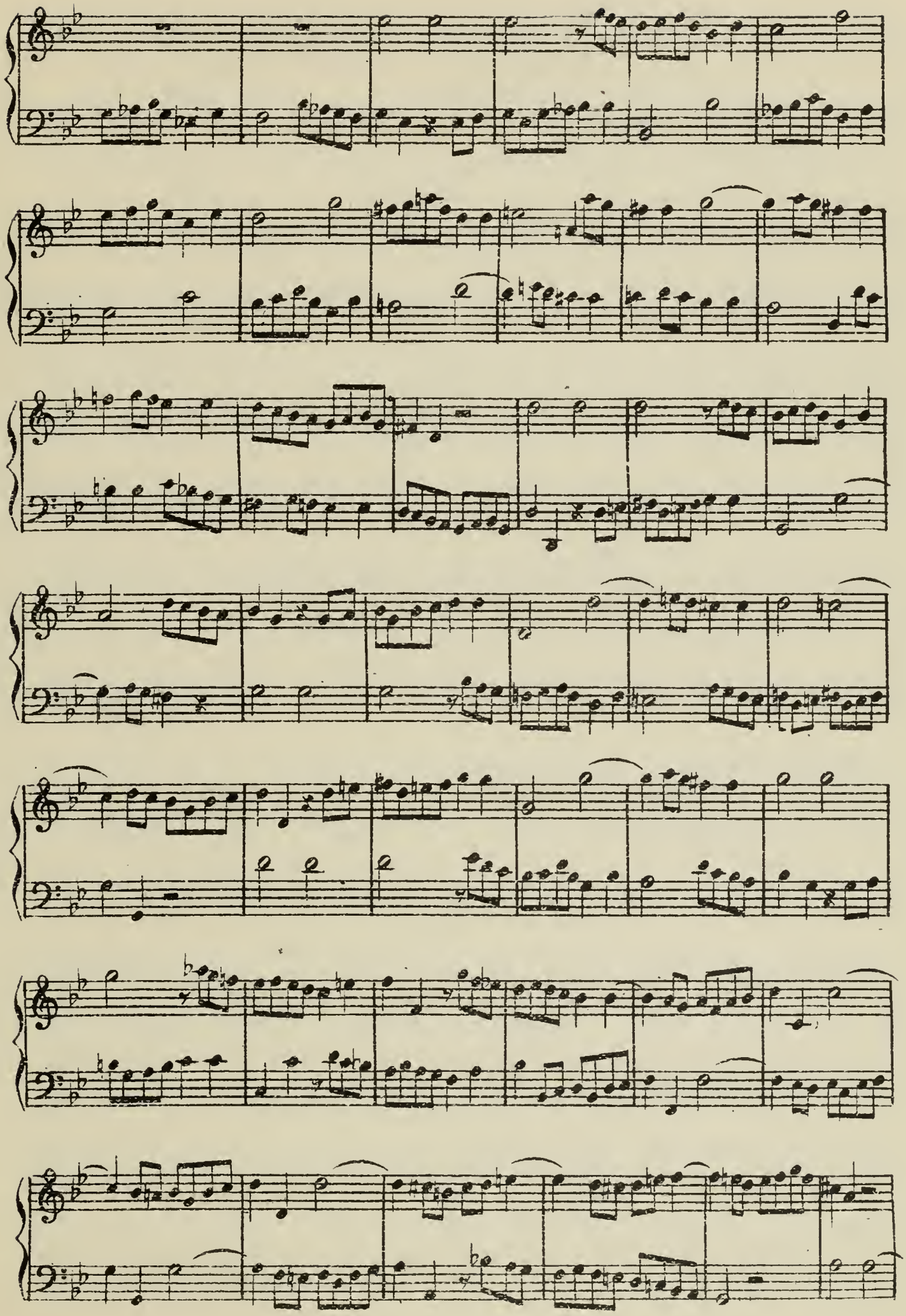
Response.

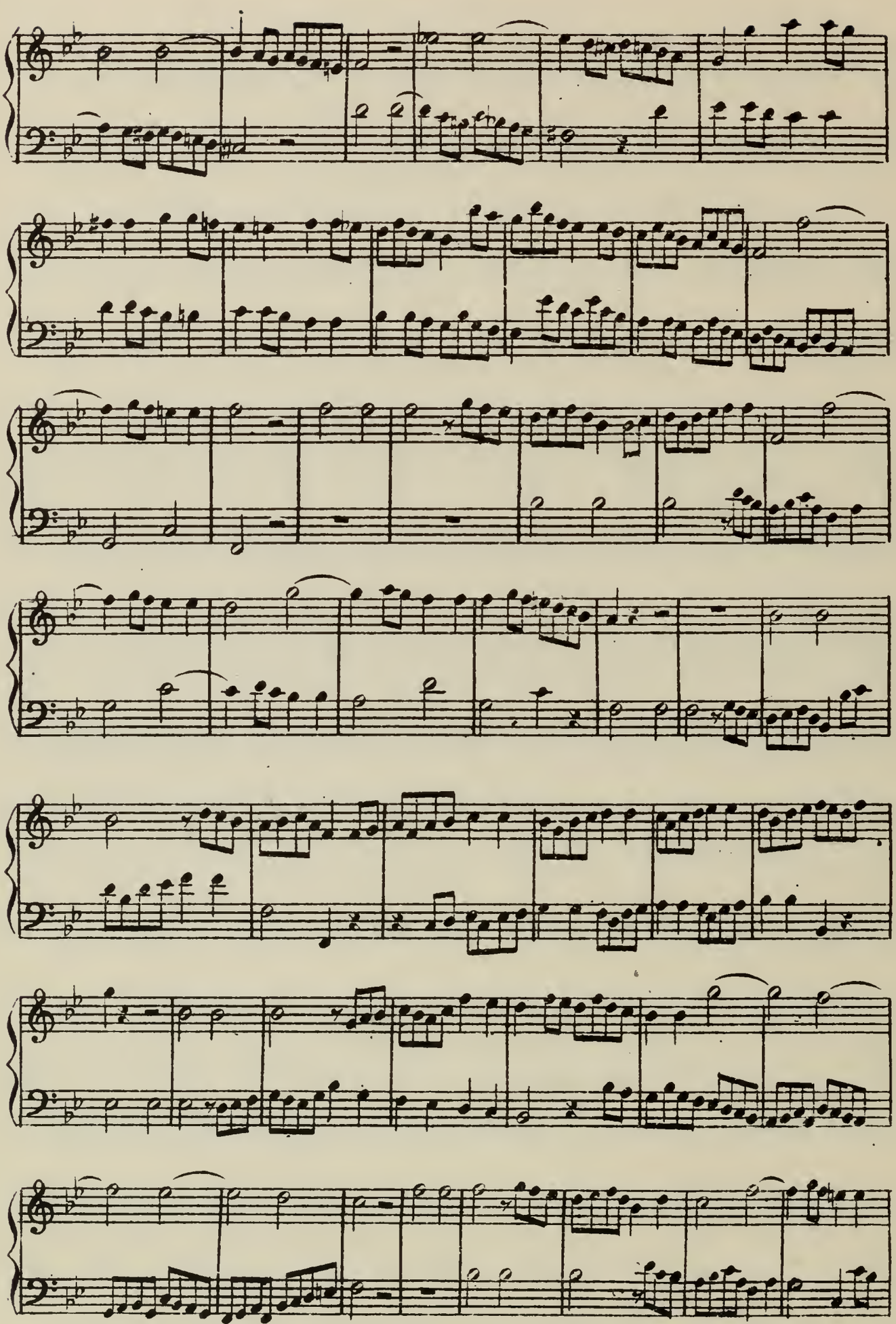
TONAL FUGUE IN TWO PARTS.

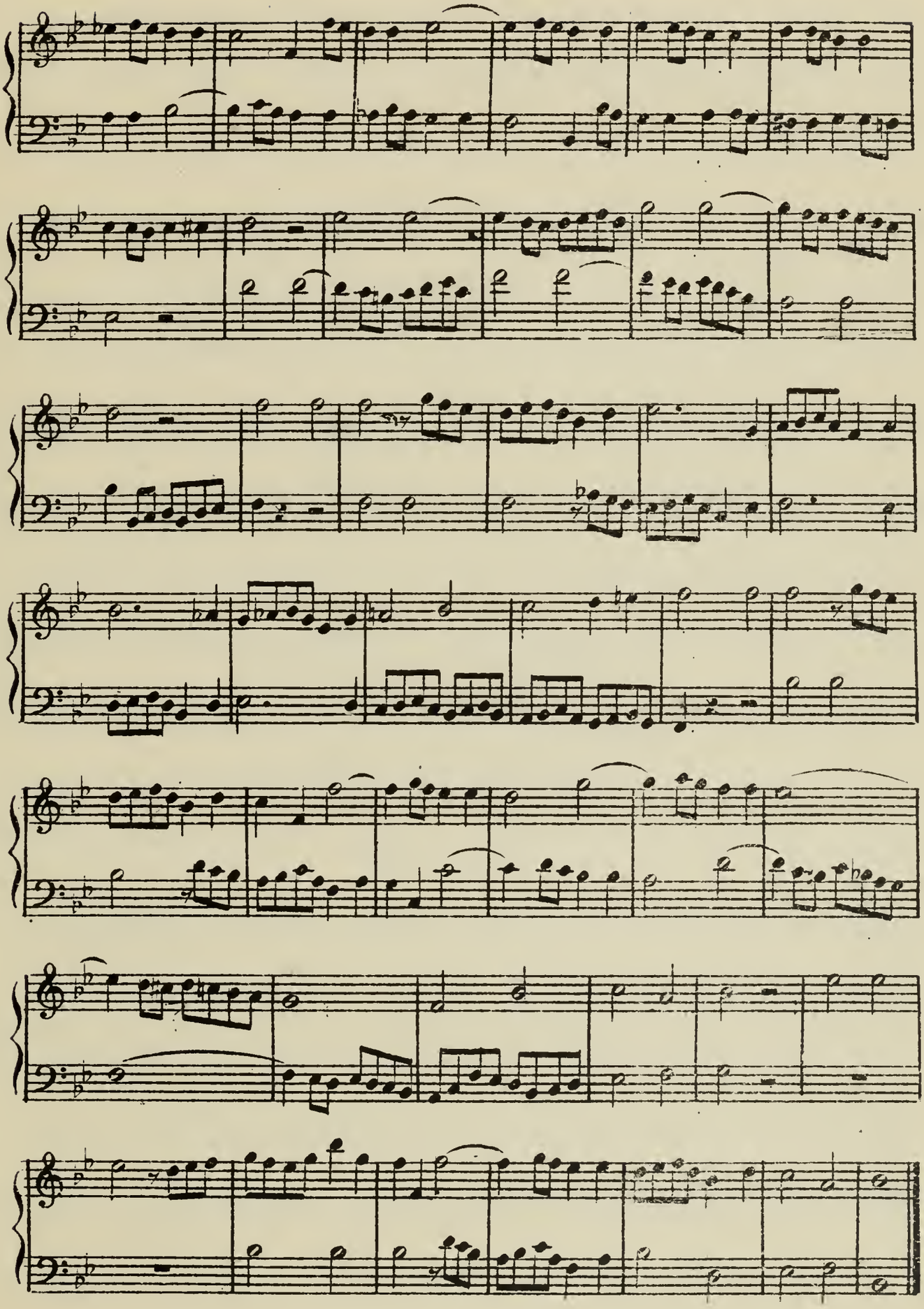
CHERUBINI.

Ex. 177.







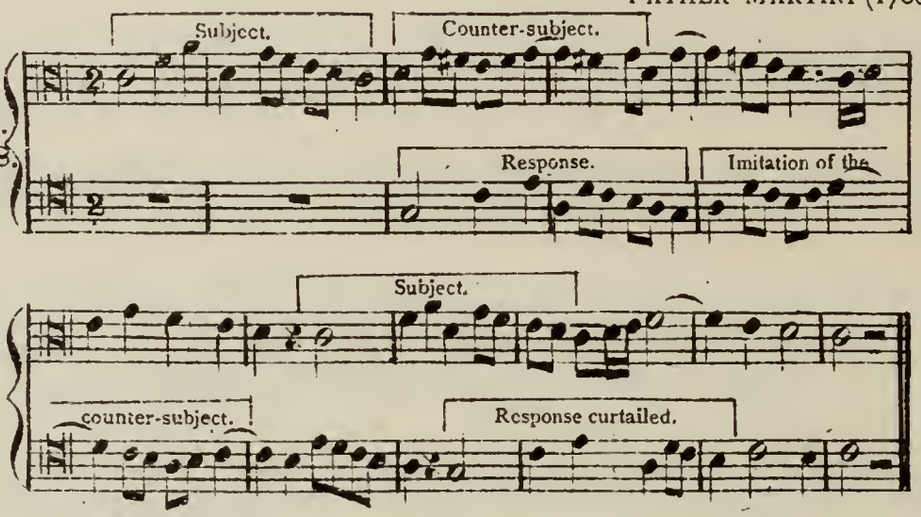


REAL FUGUE.

Real fugue is of more ancient date than tonal fugue. In this fugue the subject commences with the tonic and proceeds toward the dominant; the response should be made in the dominant and should in all respects be like the subject. A fugue is called free when the response, which should be *exactly* similar to the part imitated, is not so beyond the duration of the subject and counter-subject.

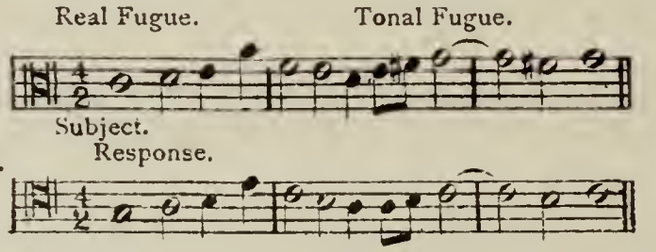
FATHER MARTINI (1706–1784).

Ex. 178.



Cherubini (1760–1842) gives in the following example an instance of a mixture of real and tonal fugue, in which the subject commences as a real fugue and ends as a tonal fugue.

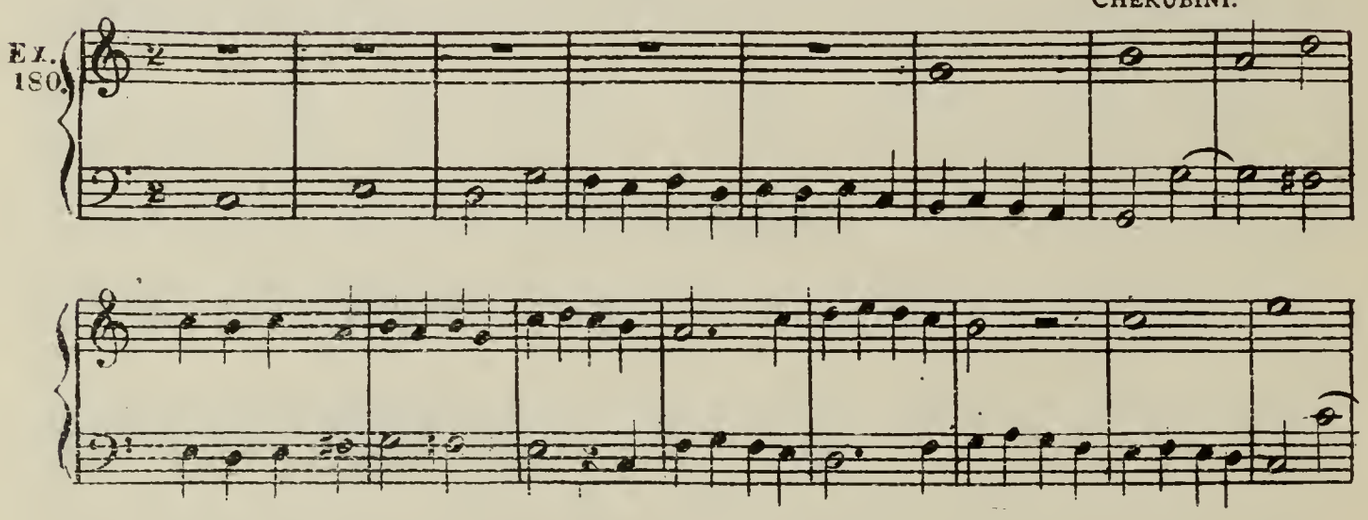
Ex. 179.

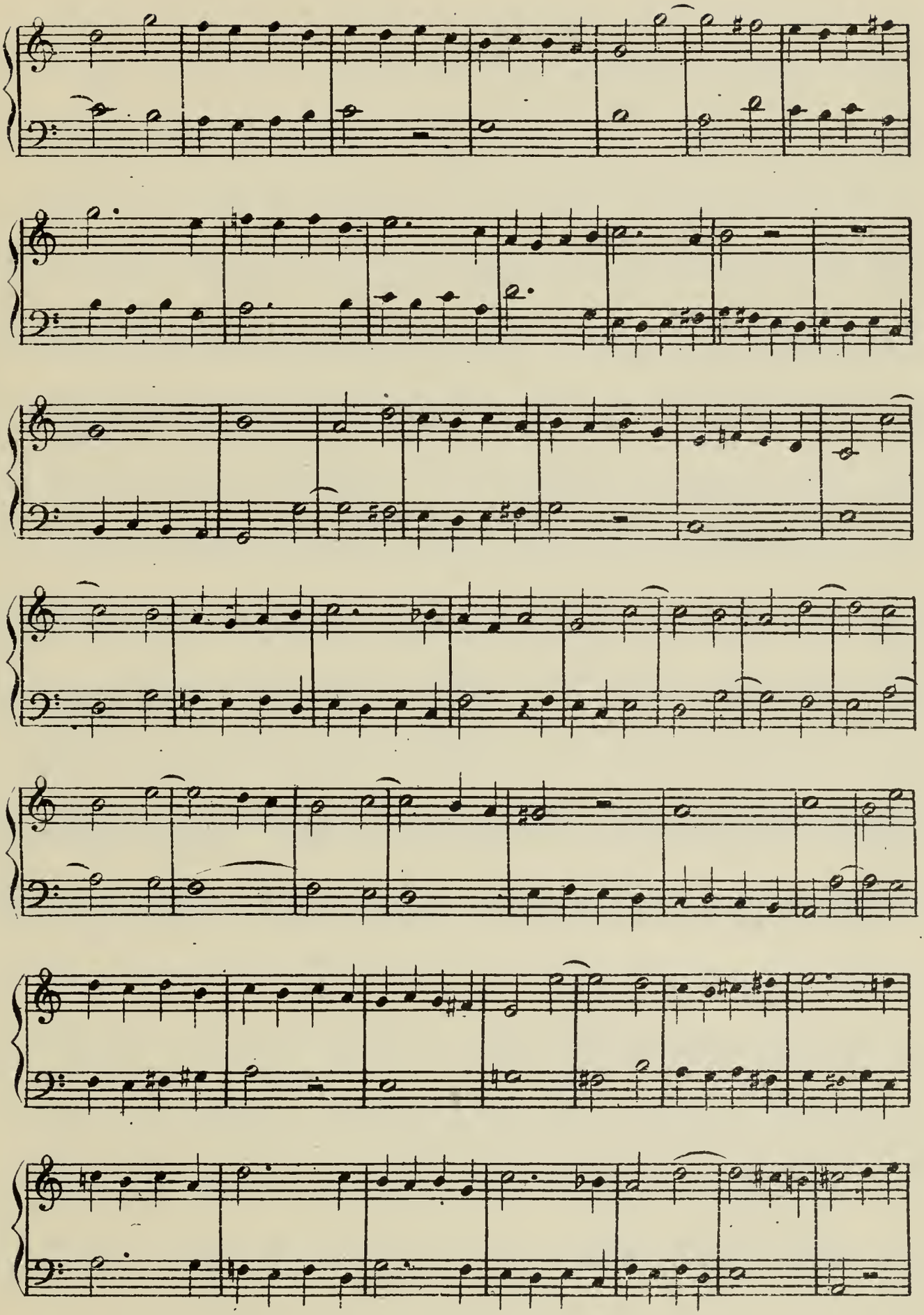


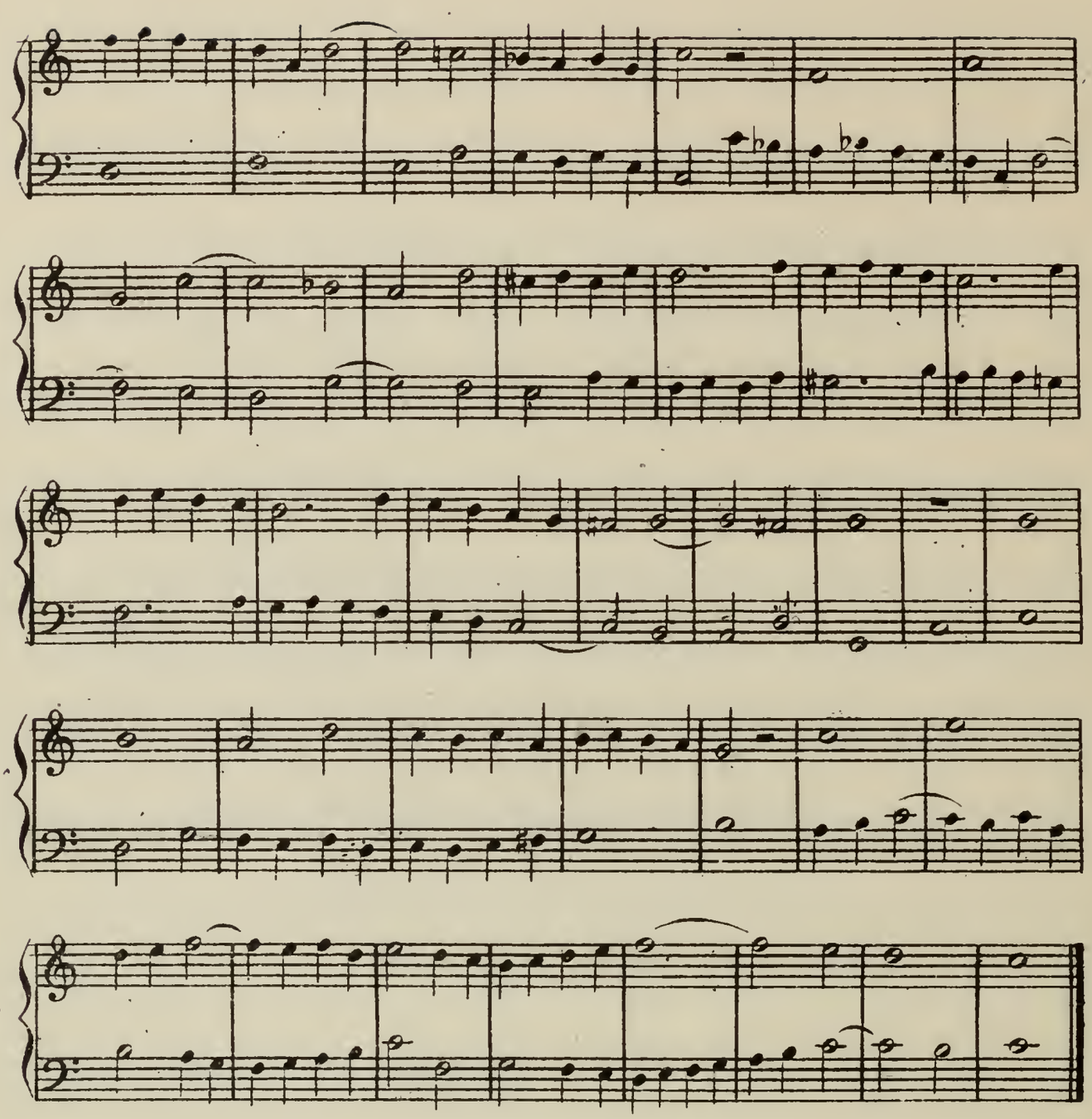
REAL FUGUE IN TWO PARTS.

CHERUBINI.

Ex. 180.





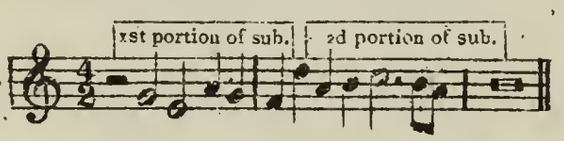


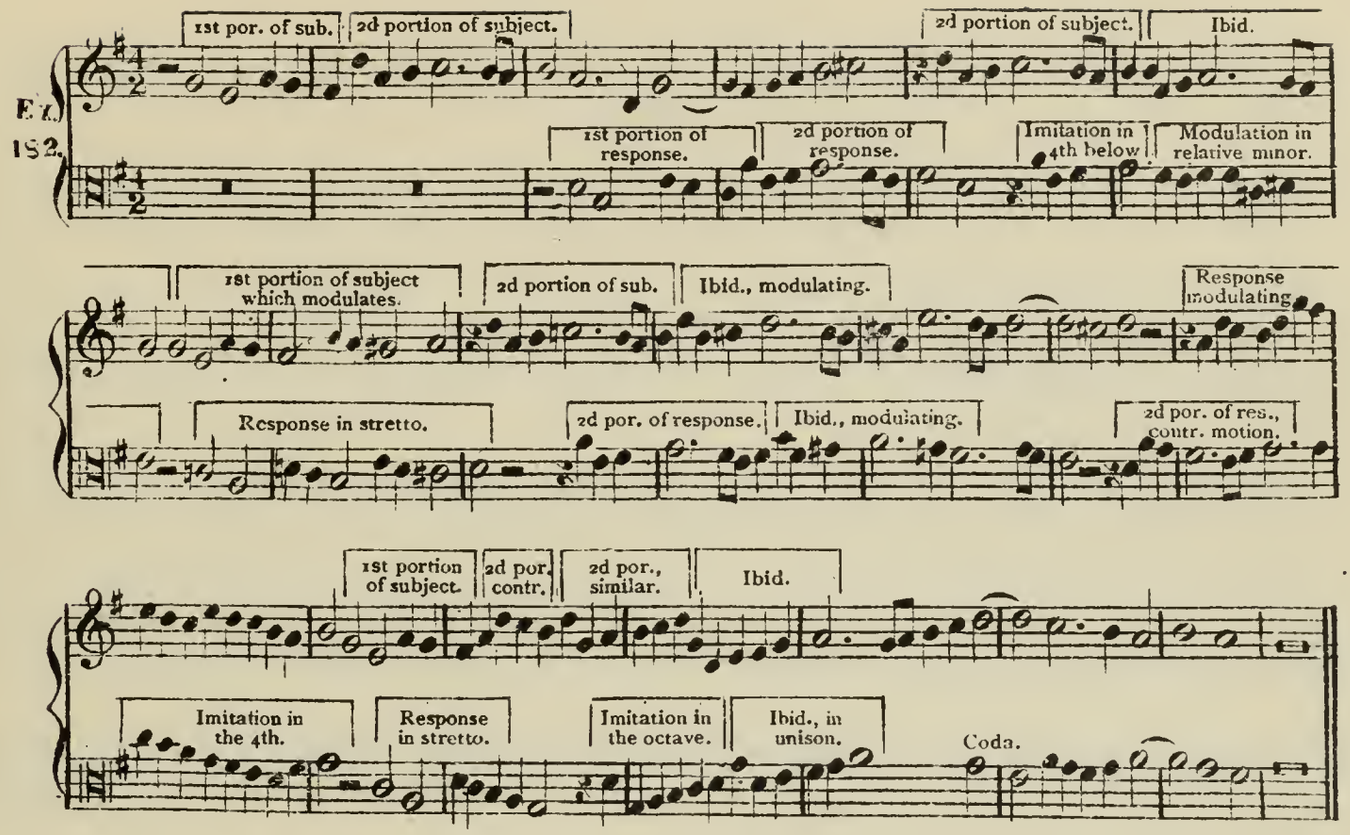
FUGUE OF IMITATION.

In fugue of imitation, the composer is at liberty to write his response with alterations or curtail it; also the response may be made not only in the unison, but in the 2d, 3d, 4th, 5th, 6th, 7th and 8th.

The subject of this kind of fugue should be short, so that the response will not be too late in being heard. There is no fugue, either real or tonal, which in its various passages is not liable to be transformed into a fugue of imitation. If a fugue of imitation be composed of more than one portion, as in Example 181, sometimes one and sometimes another of these two portions may be taken for modulations, for making imitations, and for inverting them by contrary motion. The following little fugue by Father Martini (1706–1784) will serve as an example, and give an idea of fugue of imitation.

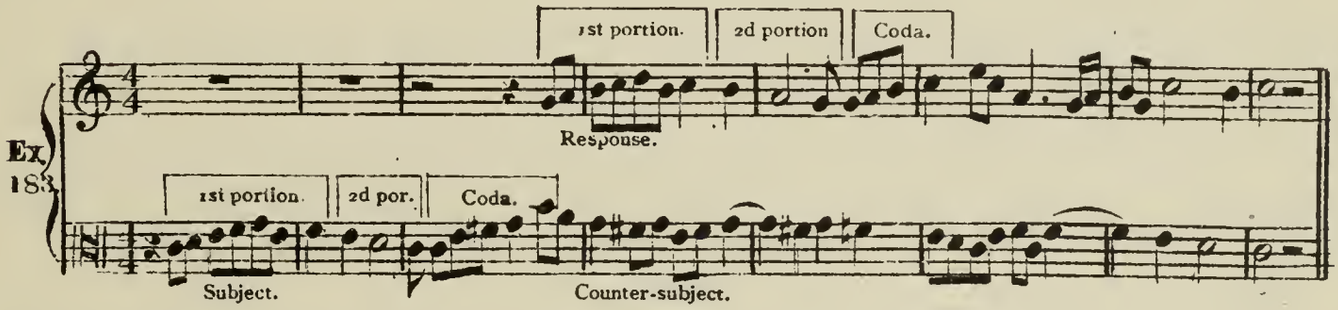
Ex. 181.





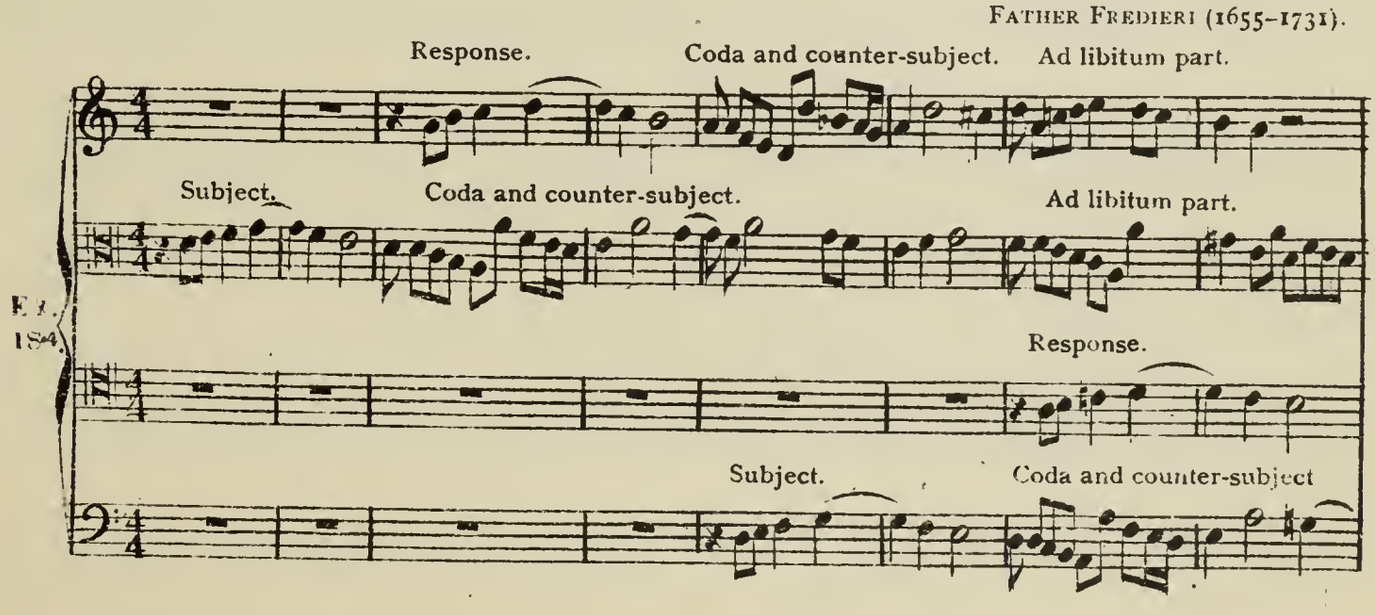
CODA.

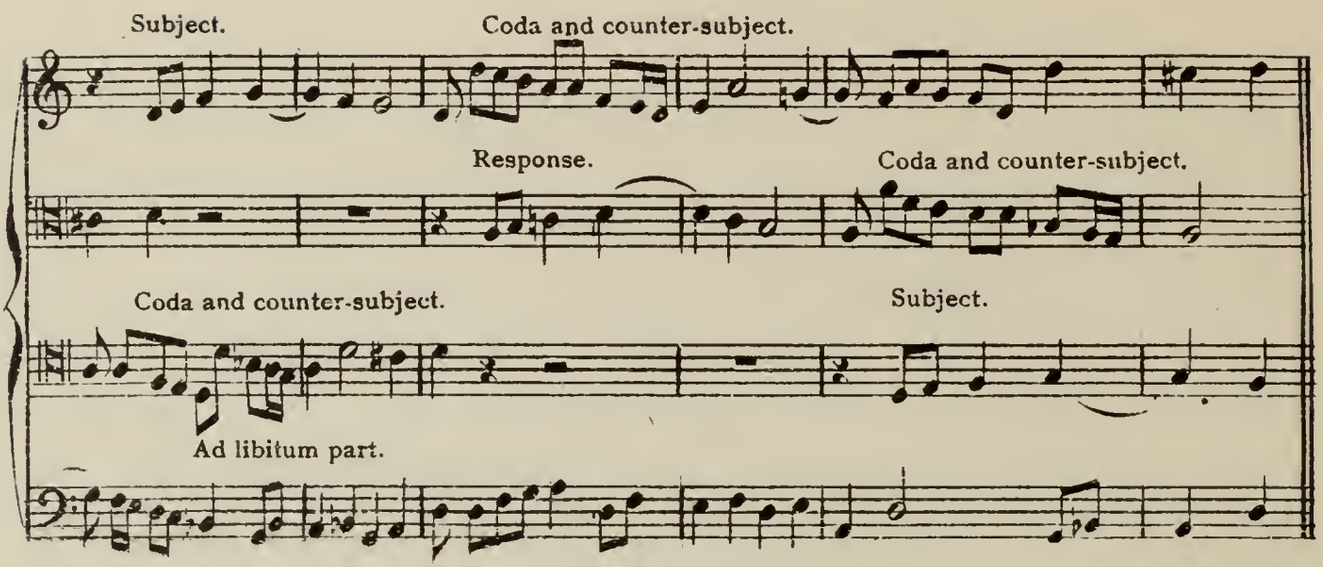
The last notes of the subject, leading into and preparing the counter-subject, are called the coda —tail or appendix.



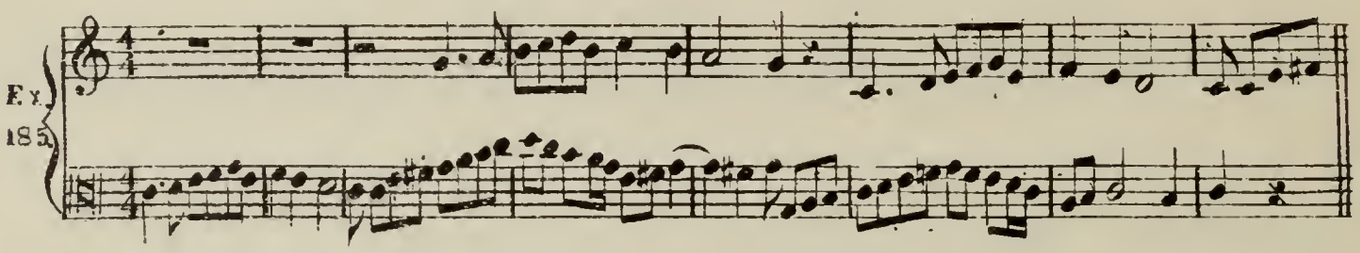
There are cases where the coda becomes the commencement of the counter-subject, forming one undistinguished whole.

FATHER FREDIERI (1655–1731).

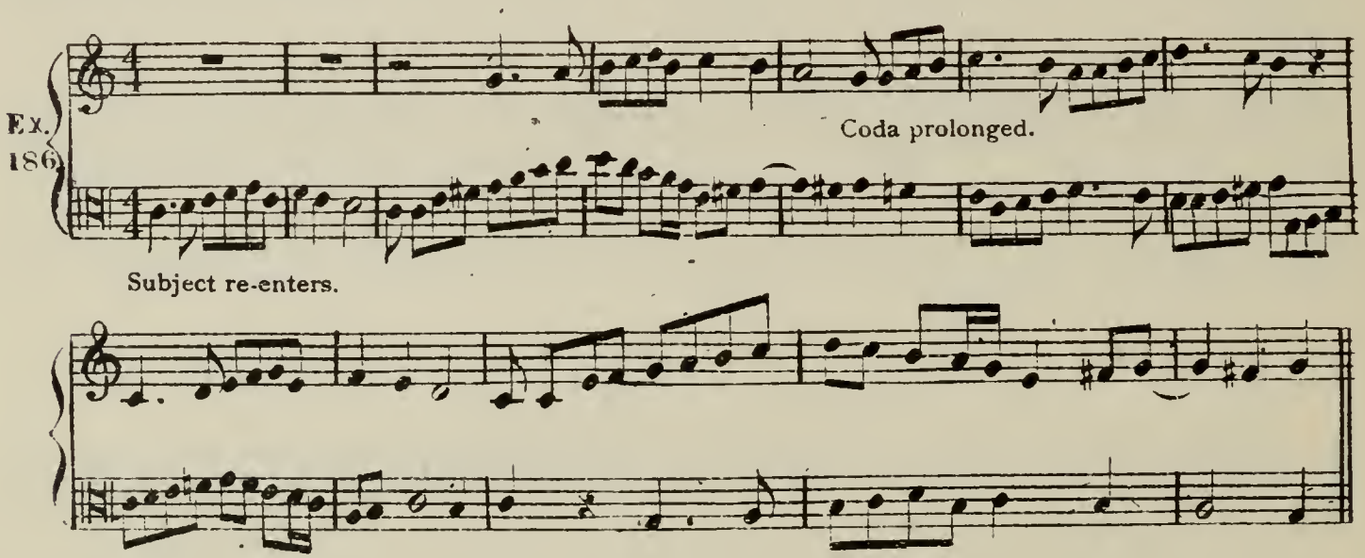




In the modern fugue, the coda of the response commences before the subject re-enters, in order to break the monotony of the subject and response too closely brought together; it contributes to the elegance of the fugue, and furnishes additional theme for the digressions and imitations.



The following example shows the advantage of introducing the coda between the response and the re-entrance of the subject.



DIGRESSION.

The digression is composed of fragments of subjects and counter-subjects, of which imitations are formed and modulations are made, in order to introduce other keys.

The digression may be short or long, according to need, and there should be more than one, each time varying in method and treatment.

MODULATION.

The choice of modulations is naturally regulated by the diatonic scale in the key of which the fugue is composed—the major and minor tonics, major and minor dominants, and major and minor subdominants. Thus, if a fugue be composed in C major, modulations may be made into A minor (relative minor), G major (major dominant), E minor (minor dominant), F major (major subdominant) and D minor (minor subdominant).

B, the leading note, should be avoided on account of its imperfect 5th.

The same modulations would naturally present themselves if the key were A minor instead of C major.

Proper choice of chords with their correct successions enables one to pass readily from key to key, in such a manner that there will be nothing in their transition to hurt either the ear or the taste.

THE ENTIRE COMPOSITION OF FUGUE.

It has been stated that the *indispensable* conditions of fugue are Subject, Response, Counter-subject, Stretto, and Pedal-note.

The *accessory* conditions are imitations formed by the subject or counter-subject, from which are composed the different digressions which should occur in the course of a fugue. If other combinations and devices be introduced, a longer and more varied fugue will be the result.

There are no two fugues composed alike, they differ one from another either in the manner in which they are treated, or in their combinations. Study, skill, routine, imagination and invention more or less perfect will decide the merit of a fugue. It will therefore be necessary to study fugues of different composers, as each composer has his own distinct way of writing in this respect.

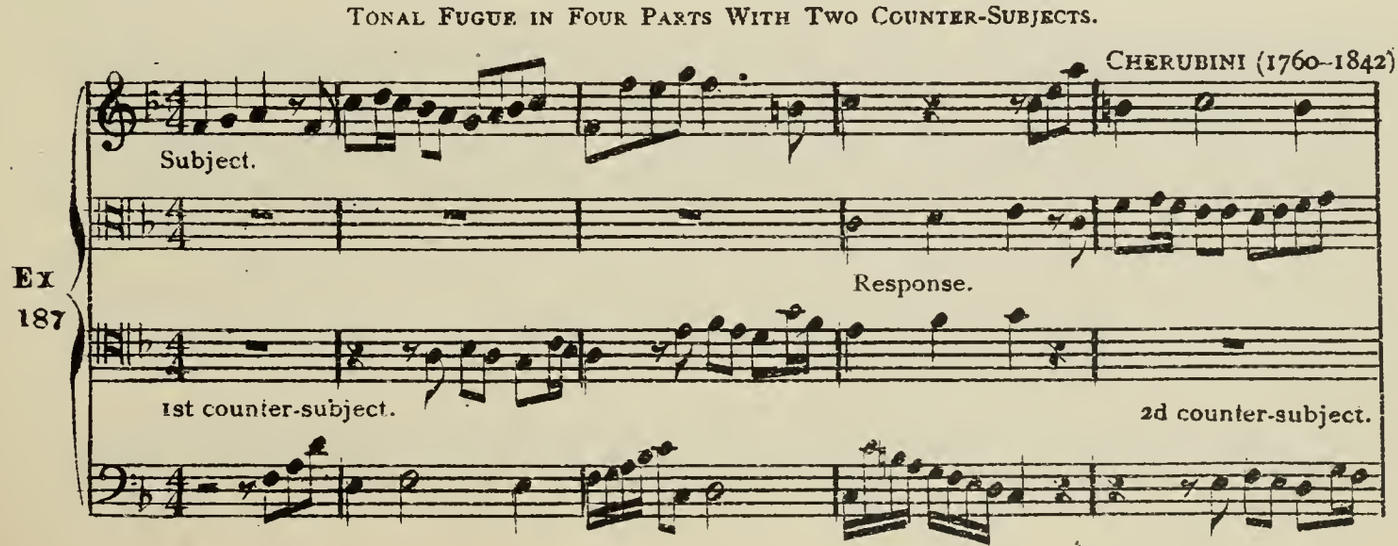
By the foregoing examples of Tonal and Real Fugue it will be seen that a fugue is deduced from the subject and counter-subject. In order to vary the effects, it is necessary to give each of the parts of the fugue a rest, which should be placed in a part just before the entrance of the subject or response is to be entered. When these rests are employed under other circumstances, the part which ceases should never re-enter right away without reason or for the purpose of filling up, but should re-enter to respond to some imitation or to propose one in its turn. It is not absolutely necessary to introduce a rest before the entrance of the stretto, but when introduced it makes the stretto more effective by isolating it from that which precedes it.

It is also recommended to avoid monotony in the choice of ideas, designs and phrases. To prevent this defect, attention must be paid when planning the digression, not to employ the same fragments which were used in the preceding digression.

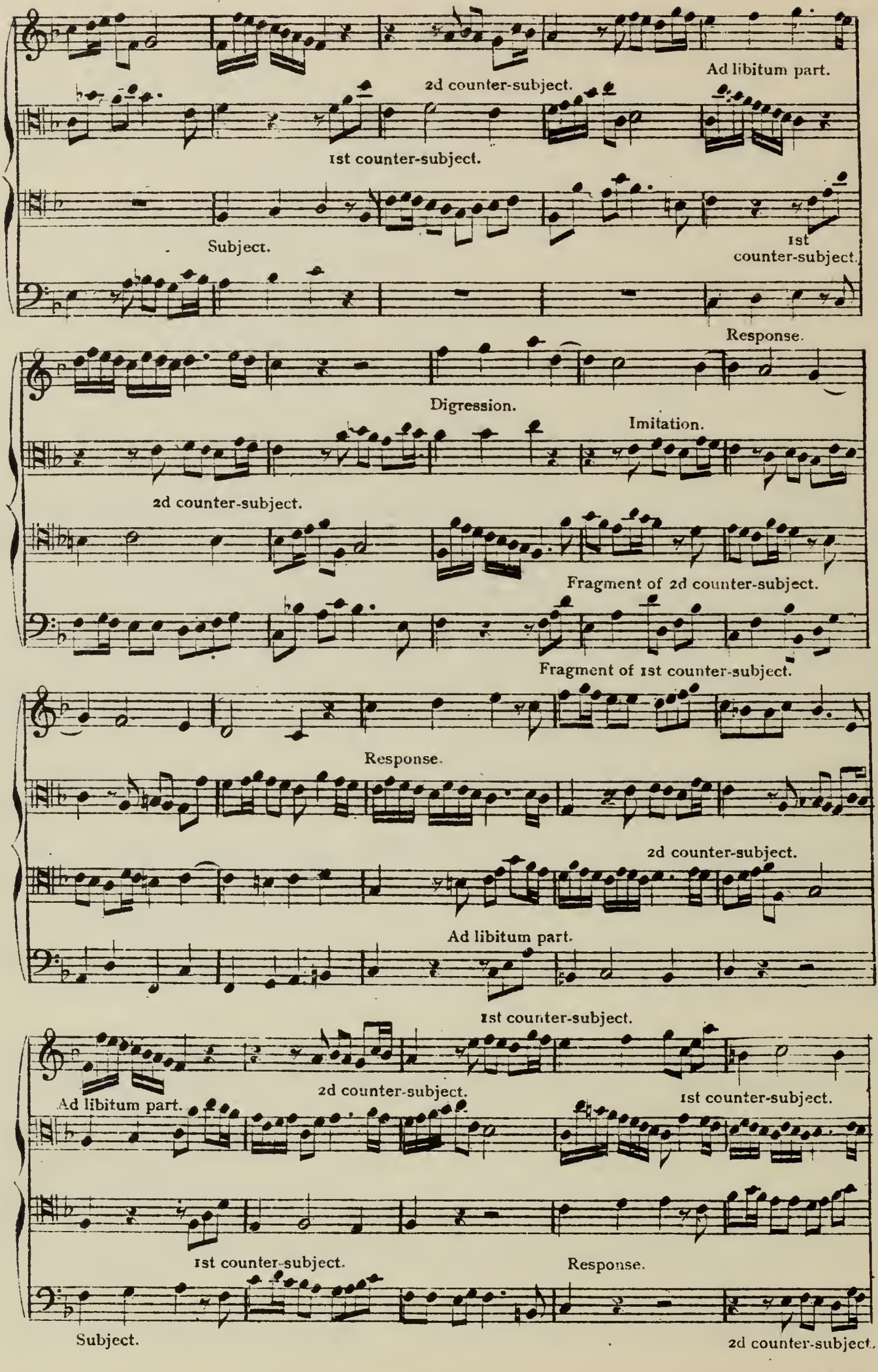
In tonal or real fugue, of which the response is in the dominant, all the imitations should be made in the 5th, or in the 4th—which is an inverted 5th.

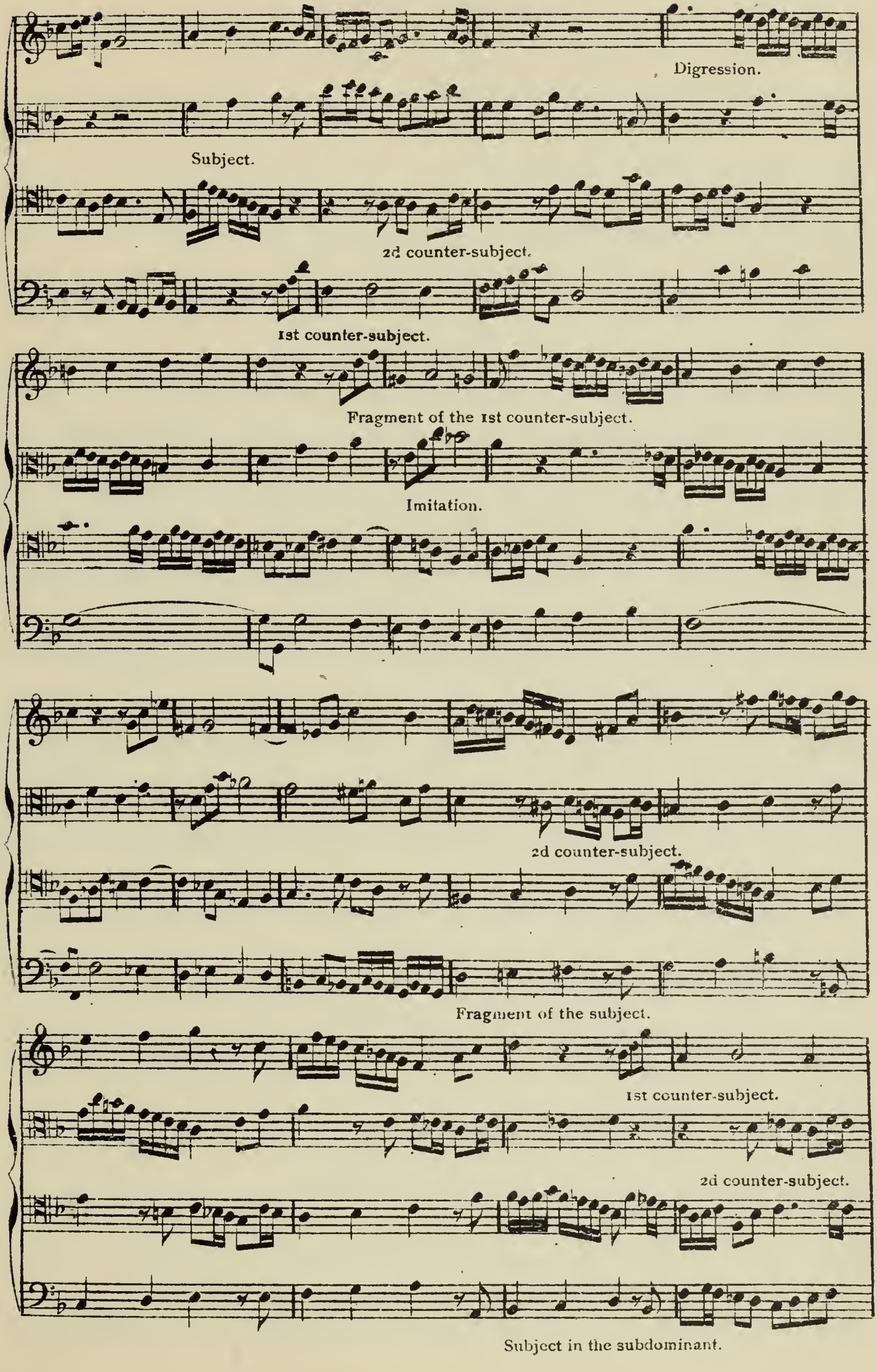
But if in a fugue of imitation the response be in the 2d, 3d, 6th or 7th, the imitation should always be made at the distance indicated by the response at the commencement. Imitations in the unison and in the octave are permitted, whatever the kind of fugue or in whatever interval the response may be made.

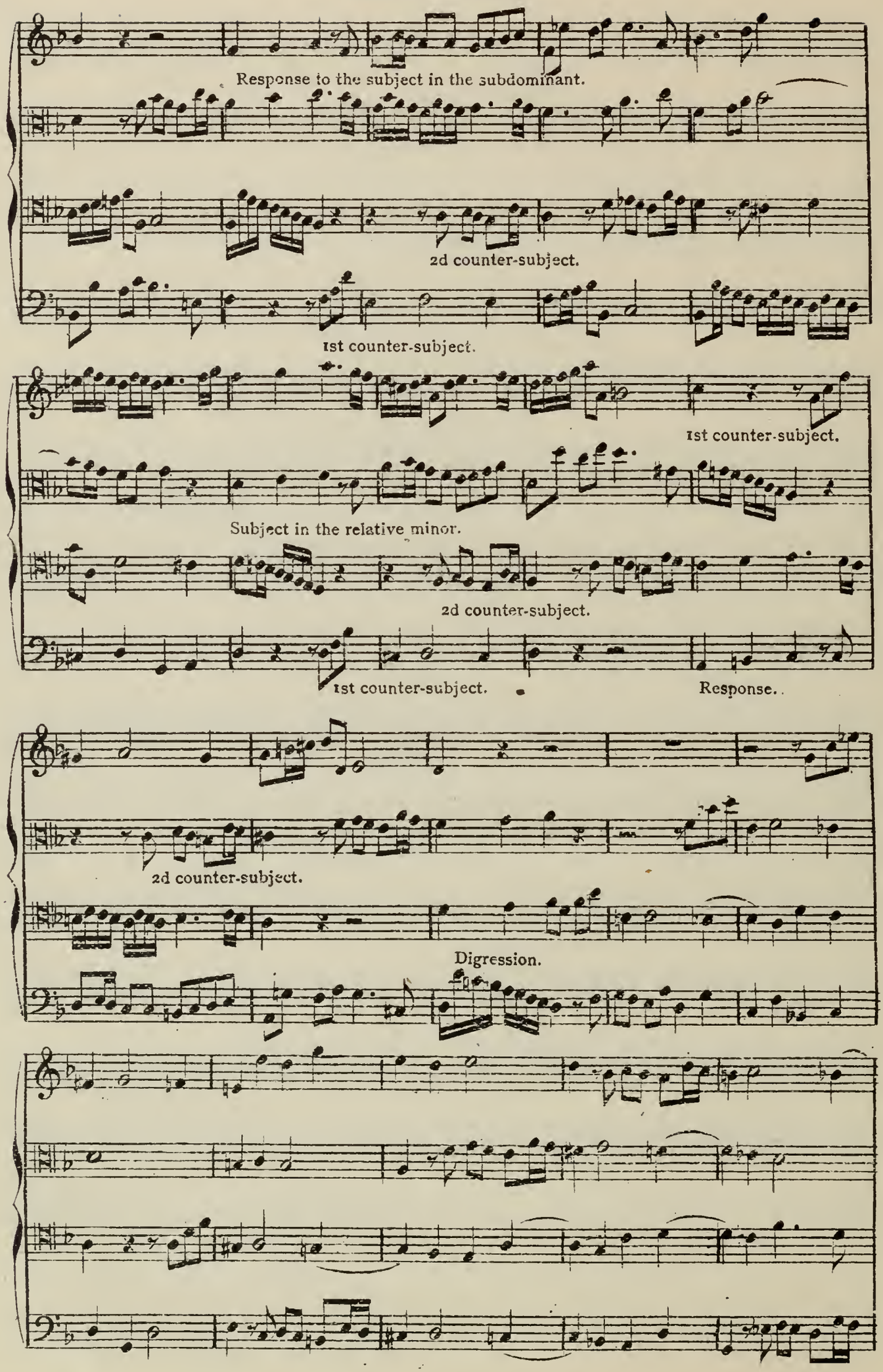
TONAL FUGUE IN FOUR PARTS WITH TWO COUNTER-SUBJECTS.

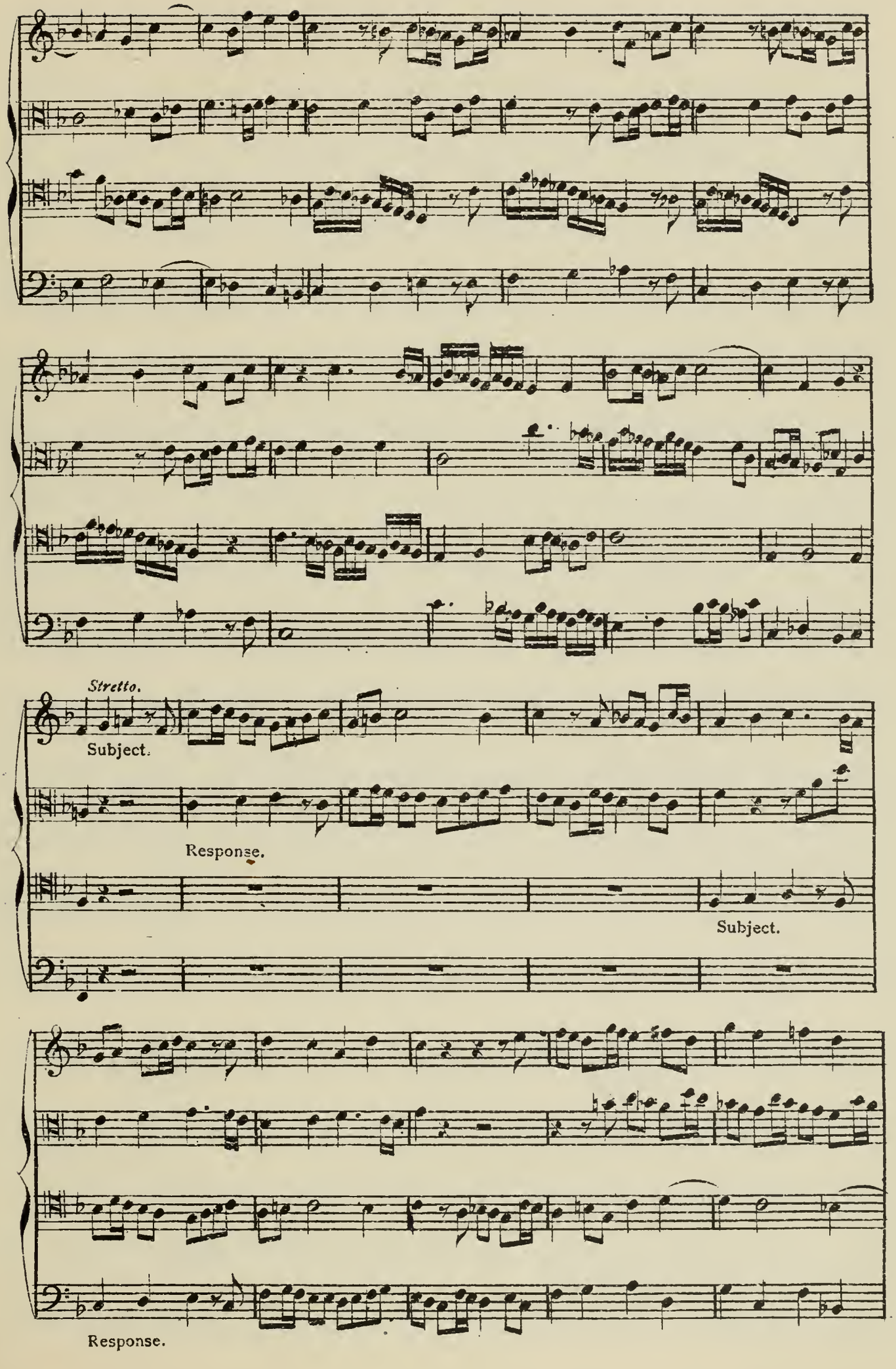


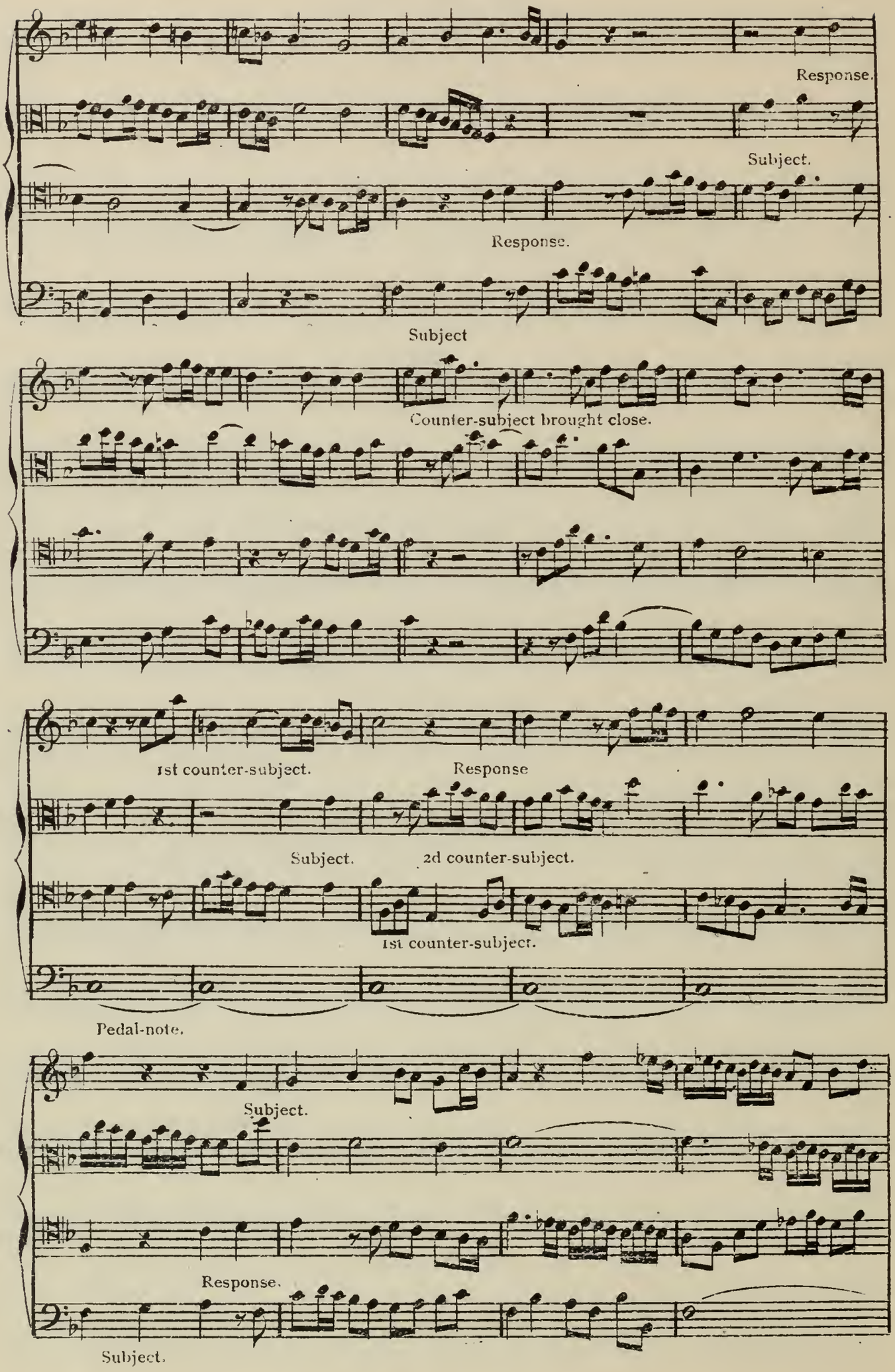
Ex 187

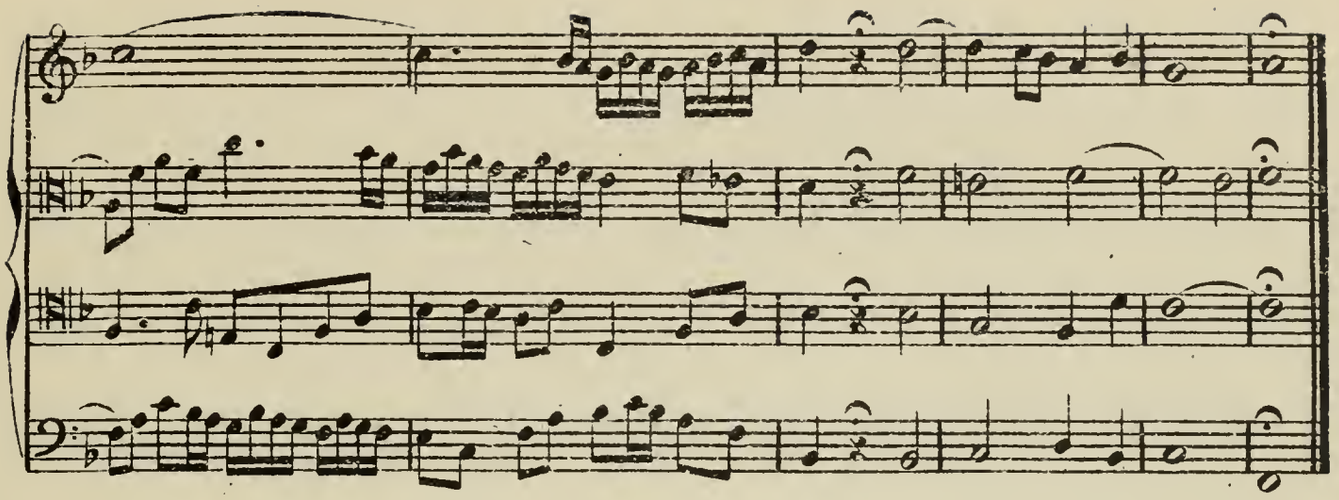

Ad libitum part.
2d counter-subject.
1st counter-subject.
Subject.
1st counter-subject.
Response.
Digression.
Imitation.
2d counter-subject.
Fragment of 2d counter-subject.
Fragment of 1st counter-subject.
Response.
2d counter-subject.
Ad libitum part.
1st counter-subject.
Ad libitum part.
2d counter-subject.
1st counter-subject.
1st counter-subject.
Response.
Subject.
2d counter-subject.


Digression.
Subject.
2d counter-subject.
1st counter-subject.
Fragment of the 1st counter-subject.
Imitation.
2d counter-subject.
Fragment of the subject.
1st counter-subject.
2d counter-subject.
Subject in the subdominant.


Response to the subject in the subdominant.
2d counter-subject.
1st counter-subject.
1st counter-subject.
Subject in the relative minor.
2d counter-subject.
1st counter-subject.
Response.
2d counter-subject.
Digression.


Stretto.
Subject.
Response.
Subject.
Response.


Response.
Subject.
Response.
Subject
Counter-subject brought close.
1st counter-subject.
Response
Subject.
2d counter-subject.
1st counter-subject.
Pedal-note.
Subject.
Response.
Subject.



OBSERVATION.

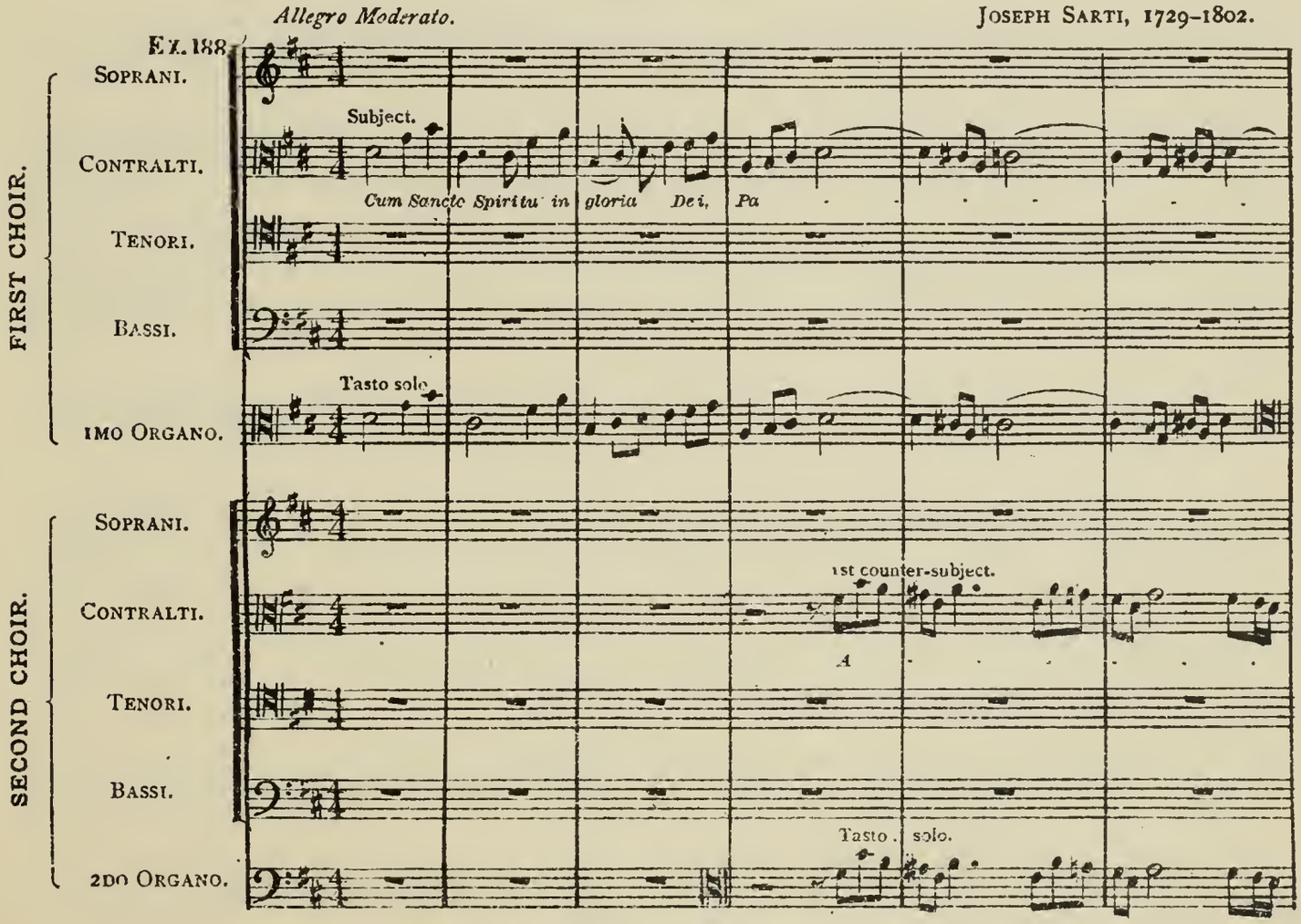
Mention has not been made until now of *Plagal* cadence, which is frequently met with in ancient compositions. The word plagal is derived from the Greek, and signifies slanting or turning aside.

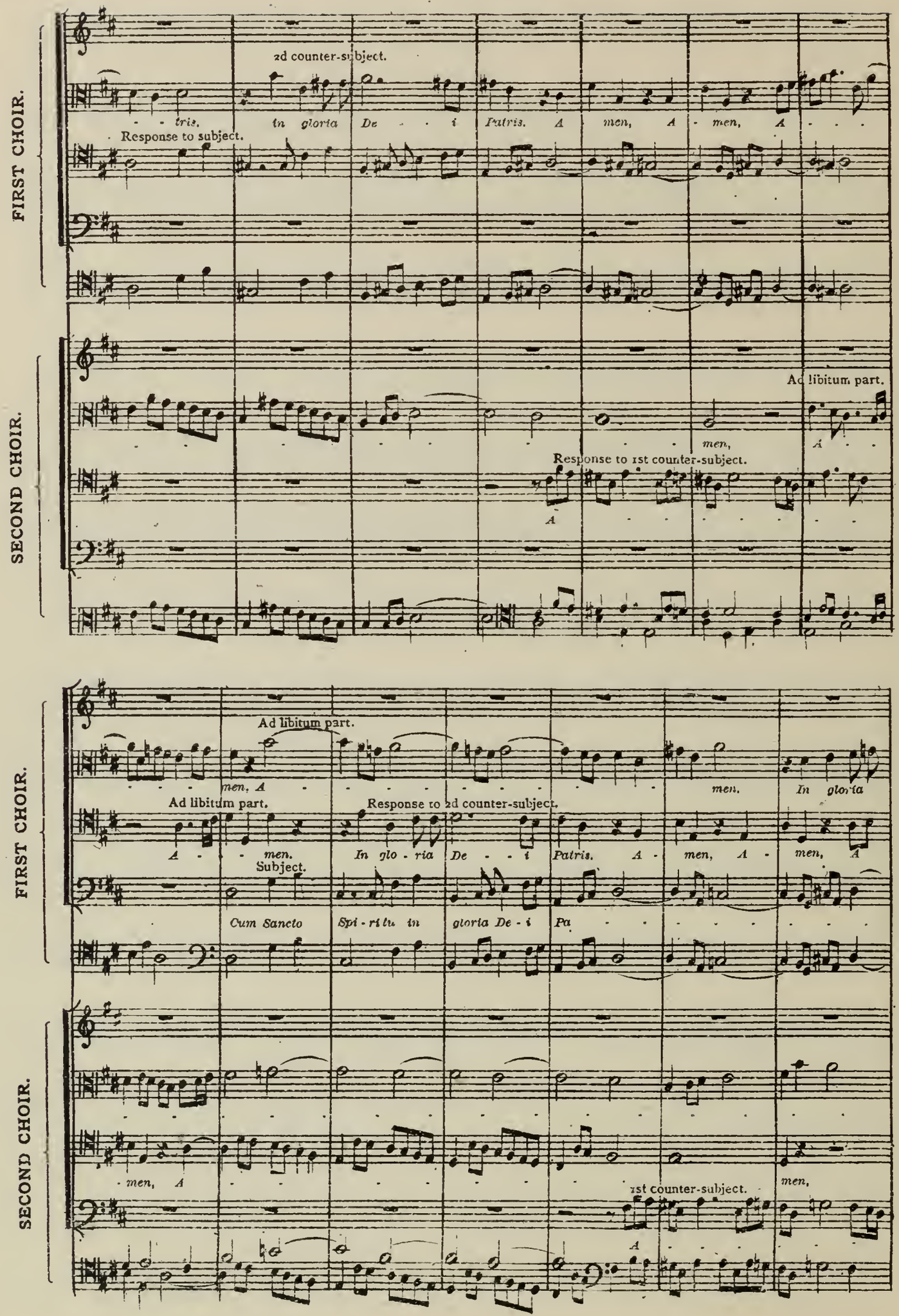
The ancient composers gave the name of *authentic* cadence to that which we at present call *perfect* cadence, that is to say, the progression from the *dominant* to the tonic. They called *plagal* cadence a progression from the *subdominant* to the tonic, and often terminated their compositions with this sort of cadence. Furthermore, they never ended a composition with the minor tonic, but with its corresponding major tonic; the minor they considered unsatisfactory as a close.

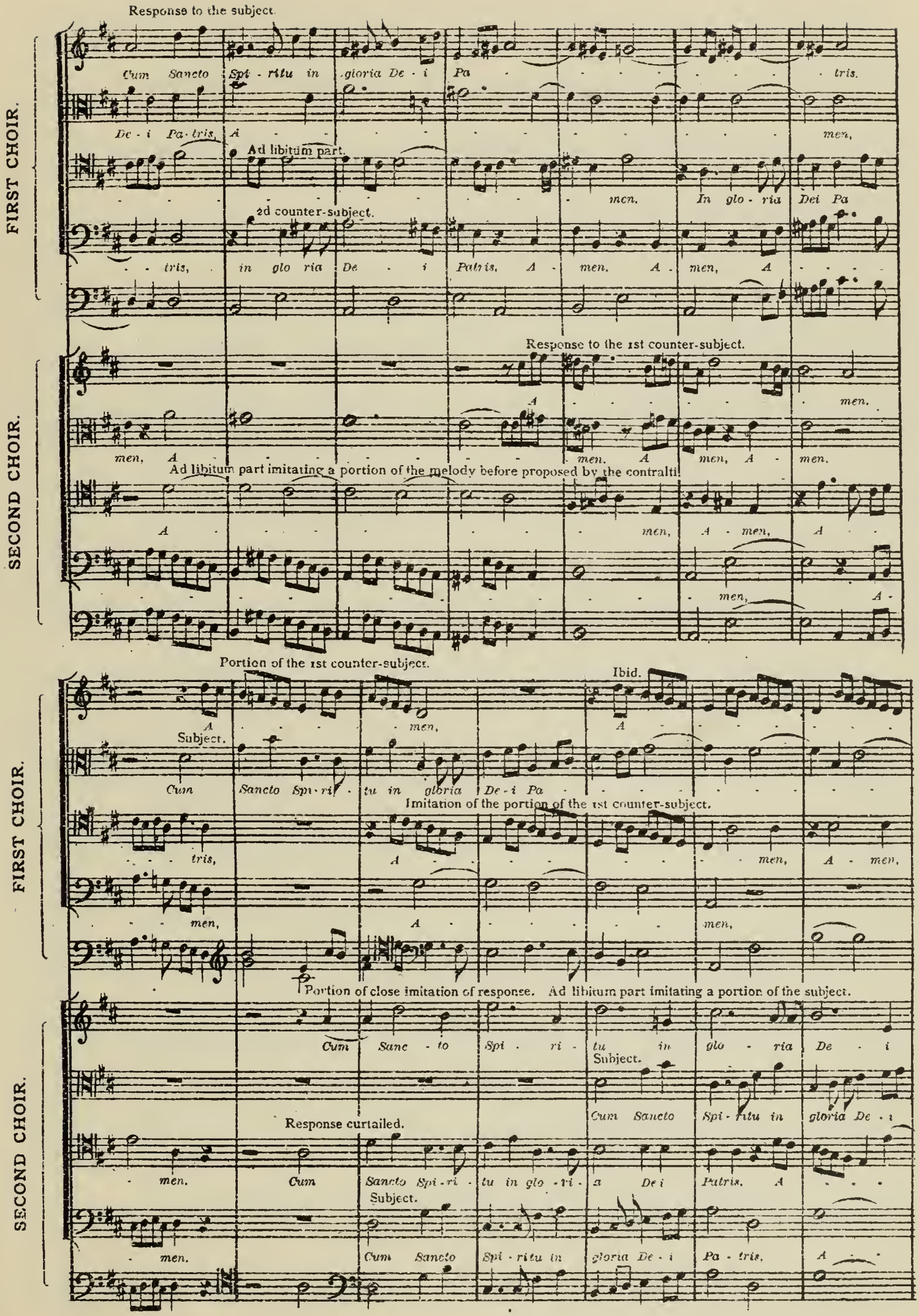
The following is an example of a real fugue in eight parts for two choirs with two organs.

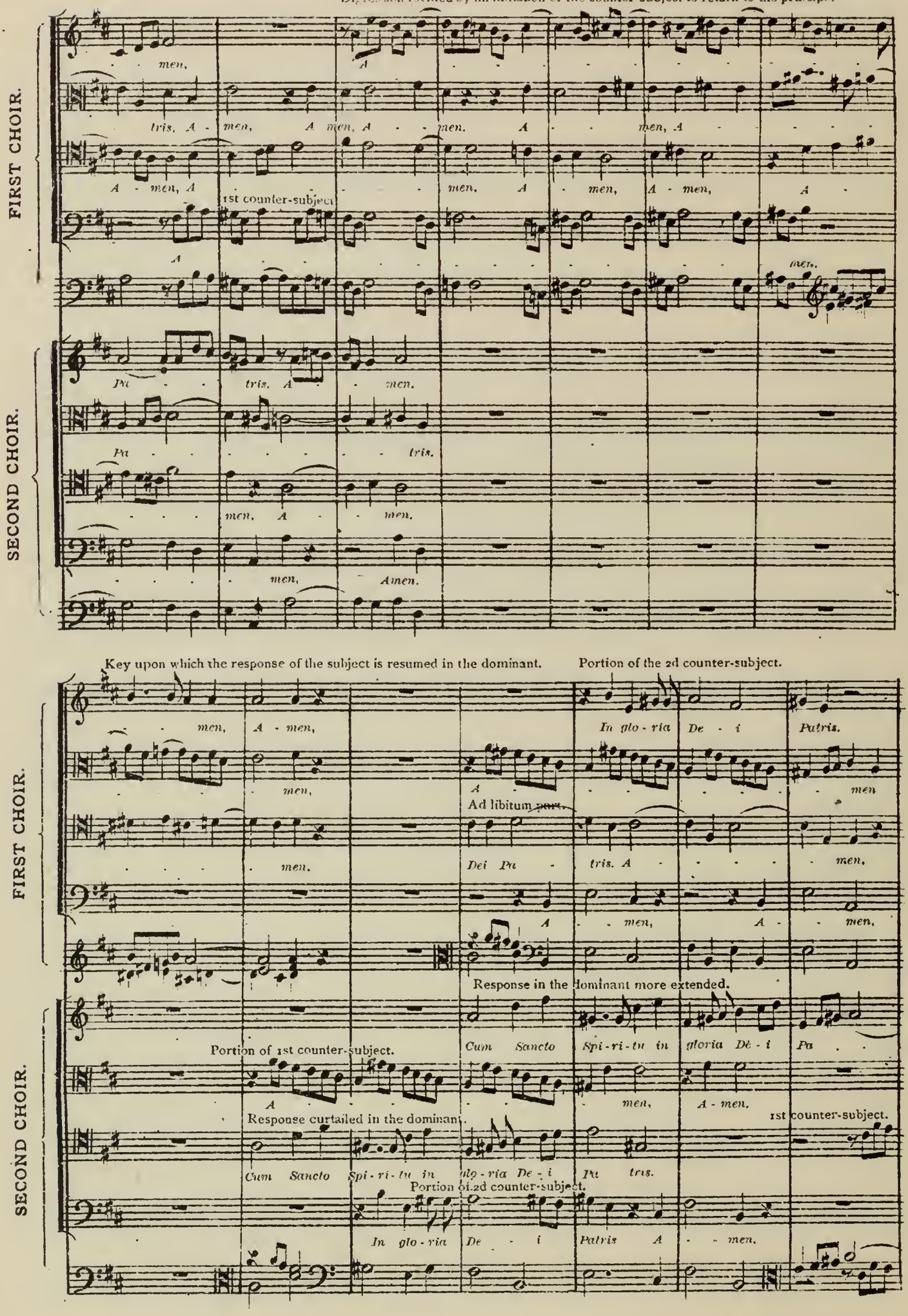
REAL FUGUE IN EIGHT PARTS FOR TWO CHOIRS.

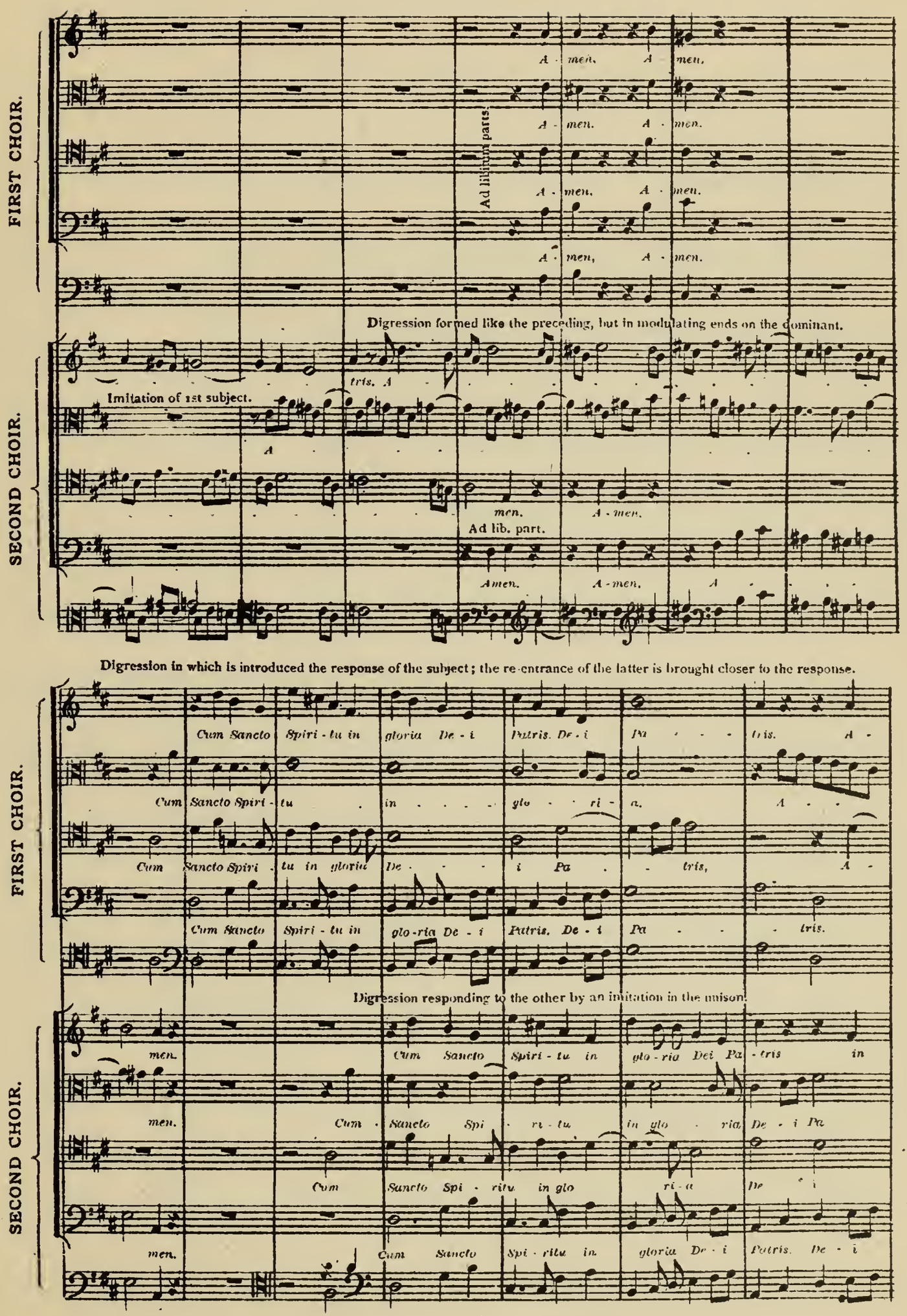
Allegro Moderato. JOSEPH SARTI, 1729–1802.

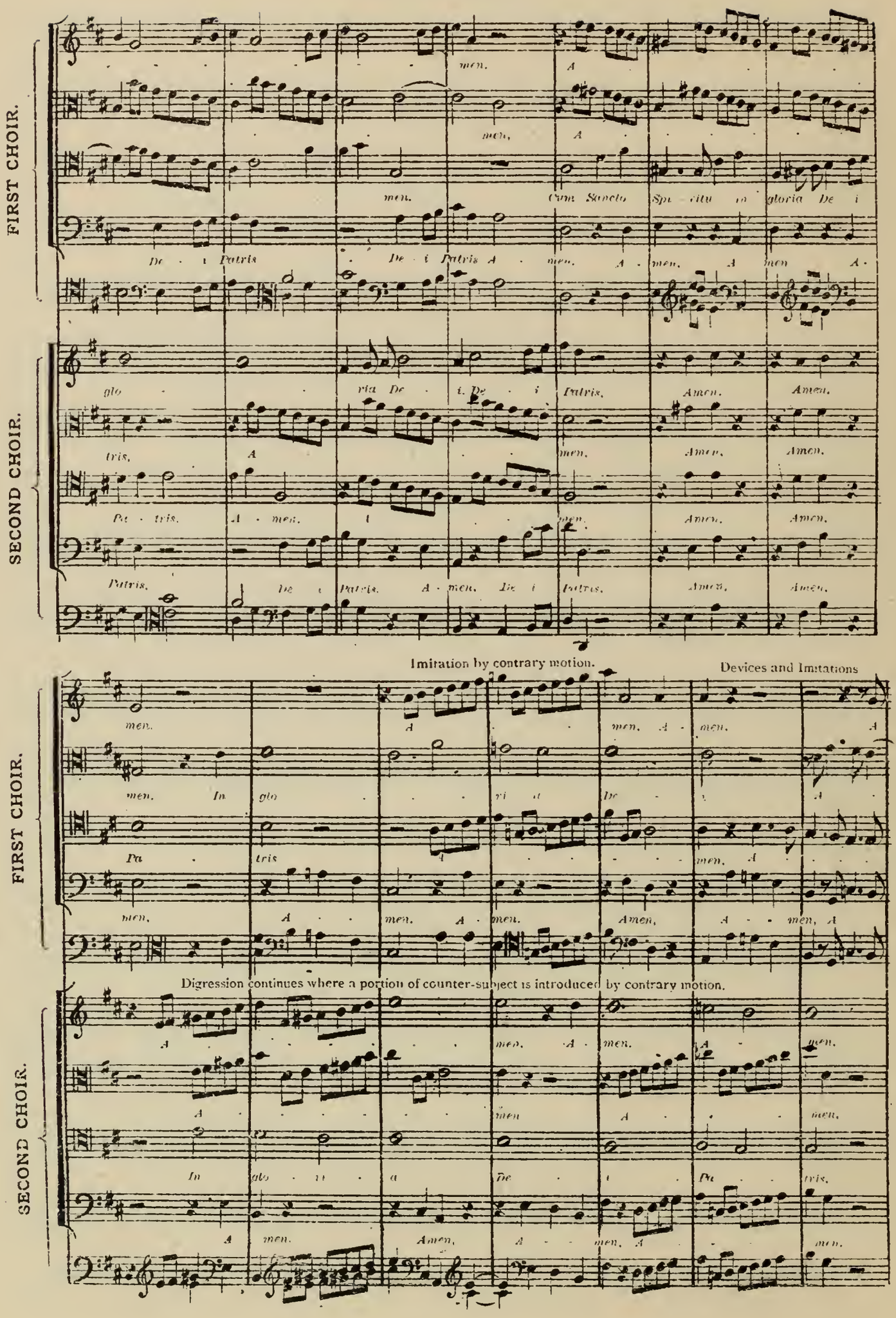



FIRST CHOIR.
SECOND CHOIR.
2d counter-subject.
tris. In gloria De - i Patris. A men, A - men, A - . . .
Response to subject.
Ad libitum part.
men, A
Response to 1st counter-subject.
A
FIRST CHOIR.
SECOND CHOIR.
Ad libitum part.
men, A
men. In gloria
Ad libitum part.
Response to 2d counter-subject.
A - men.
In glo - ria De - i Patris. A - men, A - men, A
Subject.
Cum Sancto Spi - ri tu in gloria De - i Pa
men, A
1st counter-subject.
men,


FIRST CHOIR.
SECOND CHOIR.
FIRST CHOIR.
SECOND CHOIR.
Response to the subject.
Cum Sancto Spi - ritu in gloria De - i Pa - tris.
De - i Pa - tris, A - men,
Ad libitum part.
2d counter-subject.
men. In glo - ria Dei Pa
- tris, in glo ria De - i Patris, A - men. A - men, A
Response to the 1st counter-subject.
A men.
men, A men. A men, A - men.
Ad libitum part imitating a portion of the melody before proposed by the contralti.
A men, A - men, A
men, A -
Portion of the 1st counter-subject.
Ibid.
A men,
A
Subject.
Cum Sancto Spi - ri - tu in gloria De - i Pa
Imitation of the portion of the 1st counter-subject.
tris, A men, A - men,
men, A men,
Portion of close imitation of response.
Ad libitum part imitating a portion of the subject.
Cum Sanc - to Spi - ri - tu in glo - ria De - i
Subject.
Cum Sancto Spi - ritu in gloria De - i
Response curtailed.
men. Cum Sancto Spi - ri - tu in glo - ri - a De i Patris. A
Subject.
men. Cum Sancto Spi - ritu in gloria De - i Pa - tris, A


Digression formed by an imitation of the counter-subject to return to the principal
FIRST CHOIR.
SECOND CHOIR.
men,
tris, A - men, A men, A - men. A - men, A
A - men, A
1st counter-subject
men, A - men, A - men, A -
A
men.
Pa - tris. A - men.
Pa - tris.
men. A - men.
men, Amen.
Key upon which the response of the subject is resumed in the dominant.
Portion of the 2d counter-subject.
men, A - men,
men,
men.
In glo - ria De - i Patris.
A - men
Ad libitum part.
Dei Pa - tris. A - men,
A - men, A - men,
Response in the dominant more extended.
Portion of 1st counter-subject.
Response curtailed in the dominant.
Cum Sancto Spi - ri - tu in gloria De - i Pa
A - men, A - men.
1st counter-subject.
Cum Sancto Spi - ri - tu in glo - ria De - i Pa tris.
Portion of 2d counter-subject.
In glo - ria De - i Patris A - men.


FIRST CHOIR.
SECOND CHOIR.
A - men. A - men.
A - men. A - men.
A - men. A - men.
A - men, A - men.
Ad lib. parts.
Digression formed like the preceding, but in modulating ends on the dominant.
Imitation of 1st subject.
tris. A -
A
men. A - men.
Ad lib. part.
Amen. A - men. A
Digression in which is introduced the response of the subject; the re-entrance of the latter is brought closer to the response.
Cum Sancto Spiri - tu in gloria De - i Patris. De - i Pa - - - tris. A -
Cum Sancto Spiri - tu . in - - - - glo - - ri - a. A - -
Cum Sancto Spiri - tu in gloria De - - - i Pa - - tris, A -
Cum Sancto Spiri - tu in glo-ria De - i Patris. De - i Pa - - - tris.
Digression responding to the other by an imitation in the unison.
men. Cum Sancto Spiri - tu in glo - ria Dei Pa - tris in
men. Cum - Sancto Spi - ri - tu in glo - ria De - i Pa
Cum Sancto Spi - ritu in glo ri - a De - i
men. Cum Sancto Spi - ritu in gloria De - i Patris. De - i


FIRST CHOIR.
SECOND CHOIR.
men.
Cum Sancto Spi - ritu in gloria De i
De - i Patris
De - i Patris A - men. A - men. A men A -
glo - ria De - i. De - i Patris, Amen. Amen.
tris, A - men. Amen. Amen.
Pa - tris. A - men. Amen. Amen.
Patris, De i Patris. A - men. De i Patris. Amen. Amen.
Imitation by contrary motion.
Devices and Imitations
FIRST CHOIR.
men. In glo - ria De - i
Pa - tris
men. A - men. A - men. Amen, A - men, A
Digression continues where a portion of counter-subject is introduced by contrary motion.
SECOND CHOIR.
A - men. A - men. A - men.
In glo - ri - a De - i Pa - tris.
A men. Amen, A - men, A - men.

by augmentation of 1st counter-subject, modulating to the subdominant, and back to the tonic

FIRST CHOIR.

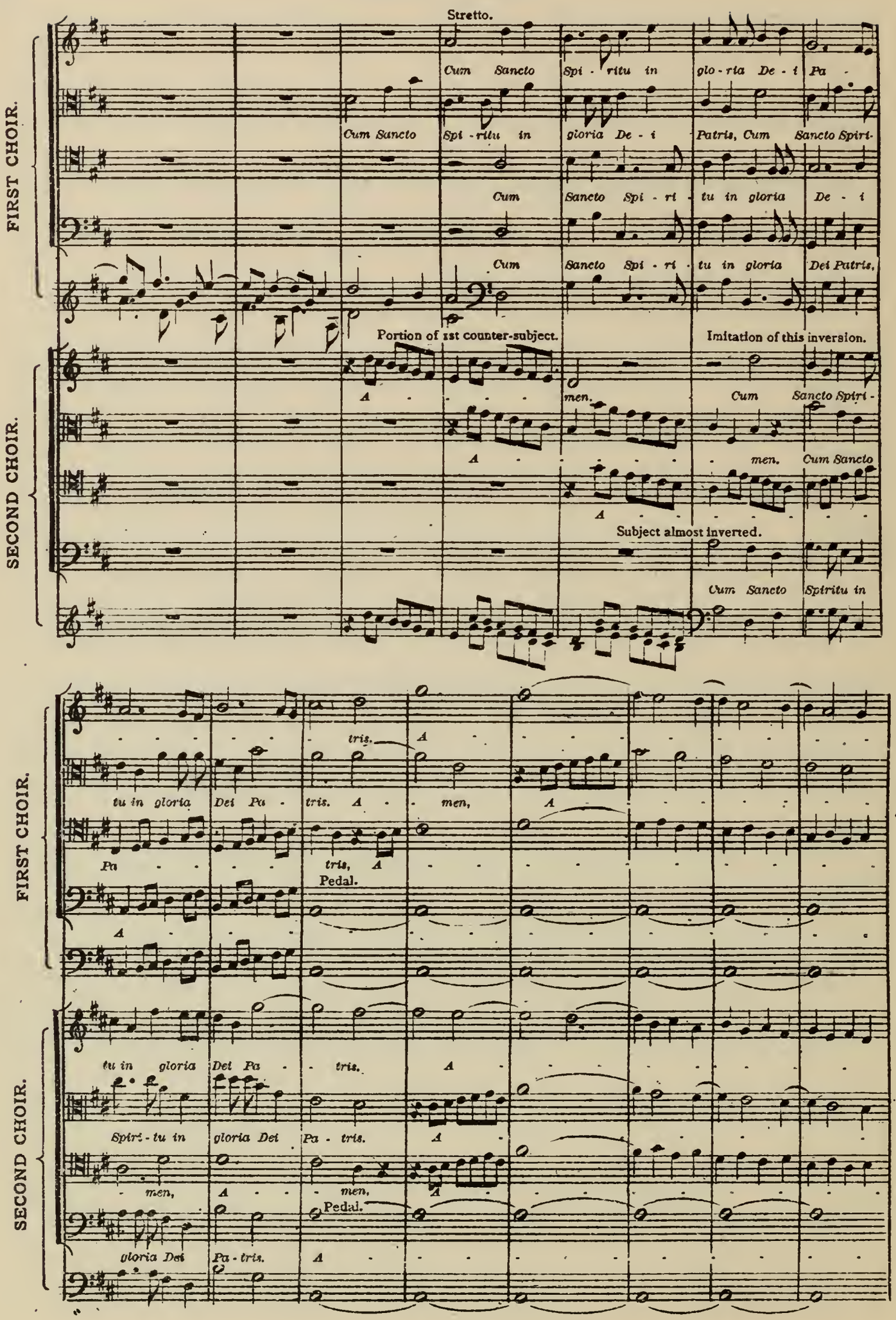
SECOND CHOIR.

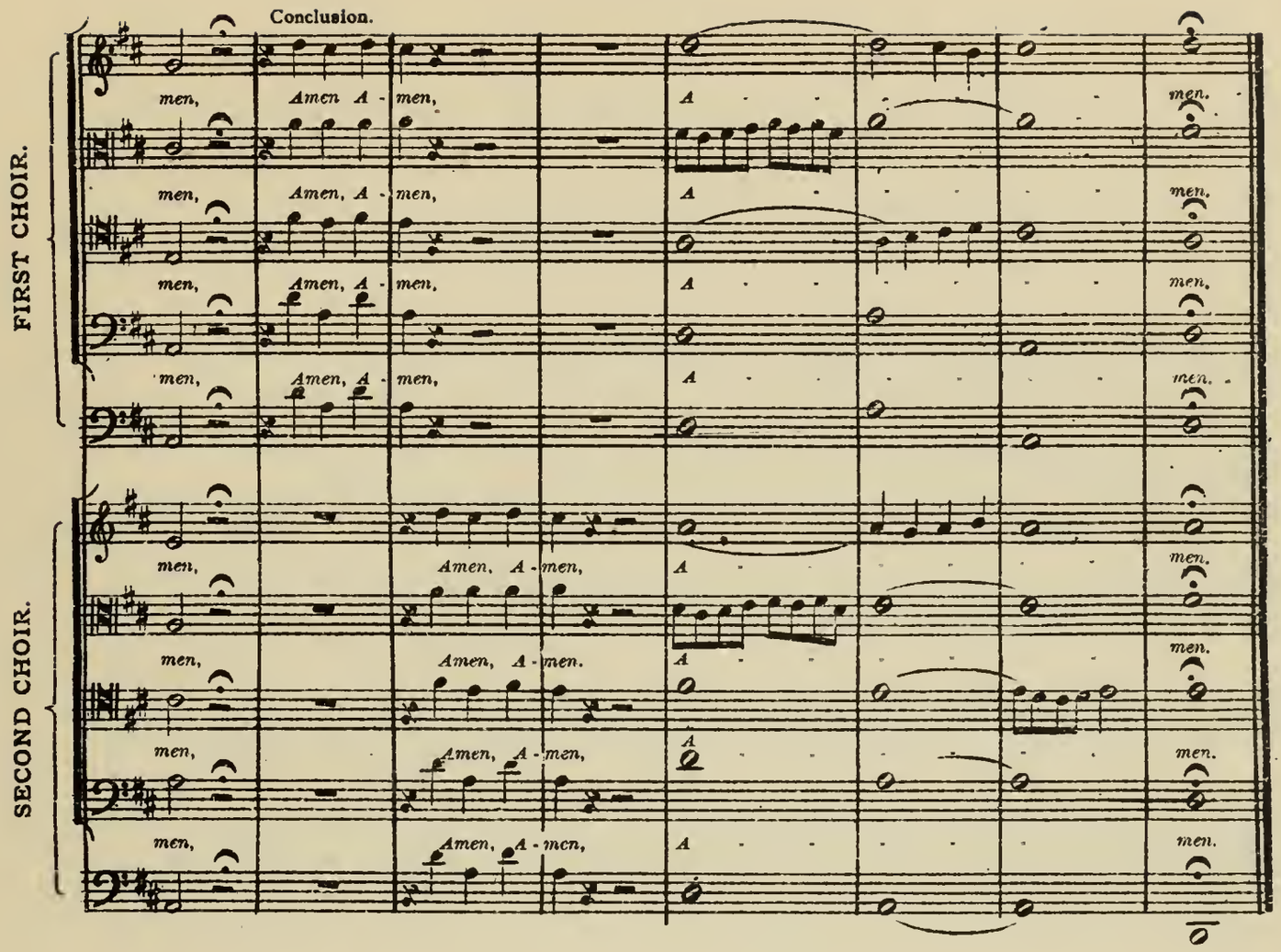
men. A

Imitation of preceding device which ends on the dominant

The digression continues by a portion of the 1st counter-subject imitated and brought closer. this digression in modulating ends on the key F♯ minor.

Imitations.


Stretto.
FIRST CHOIR.
SECOND CHOIR.
Cum Sancto Spi - ritu in glo - ria De - i Pa -
Cum Sancto Spi - ritu in gloria De - i Patris, Cum Sancto Spiri-
Cum Sancto Spi - ri - tu in gloria De - i
Cum Sancto Spi - ri - tu in gloria Dei Patris,
Portion of 1st counter-subject.
Imitation of this inversion.
men. Cum Sancto Spiri -
men. Cum Sancto
Subject almost inverted.
Cum Sancto Spiritu in
tris.
tu in gloria Dei Pa - tris. A - men,
Pa - tris, A
Pedal.
tu in gloria Dei Pa - tris.
Spiri - tu in gloria Dei Pa - tris.
men, men,
Pedal.
gloria Dei Pa - tris.


Conclusion.
FIRST CHOIR.
SECOND CHOIR.
men, Amen A - men, A - men.
men, Amen, A - men, A - men.
men, Amen, A - men, A - men.
men, Amen, A - men, A - men.
men, Amen, A - men, A - men.
men, Amen, A - men, A - men.
men, Amen, A - men, A - men.
men, Amen, A - men, A - men.

PART FIFTH.

FORM.

Form is a symmetrical arrangement of musical ideas, which through cadences and modulations are shaped into rhythmical sections, periods and groups, according to certain tolerably well defined rules and regulations.

Ancient form was but little susceptible of variation, while that of more recent production is constantly subject to change. In Fugue—the old form of composition—the chief ideas were one or two subjects of only a few bars each, repeated again and again with novel and skilful variations, which the mind could follow with pleasure and without undue exertion.

In later forms of musical composition, such as Sonatas, Trios, Quartets, Quintets and Symphonies, the regularity of construction is carried out upon the same fugal mode of structure, that is, presenting but a few strongly marked subjects and making the interest consist chiefly in their development.

At the present time, there is a constant temptation to throw off these trammels of form, and to fill composition with a number of subjects, on the plea of greater originality. It should, however, be borne in mind that, whatever liberty is taken in form-building, *the regularity of structure with past great composers has arisen not from any poverty of ideas, but from a definite feeling of artistic unity.*

Music after all, as far as the public is concerned, is not a *labor* of life; in order to be properly enjoyed it must be made easy of comprehension, and *this* music without *form* cannot be.

INSTRUMENTAL FORMS.

1. Sonata.
2. String-quartet.
3. Symphony
4. Suite.
5. Overture.
6. Concerto.
7. Smaller Forms.

SONATA FORM.

The standard form is that of the sonata. This form was developed in Italy; the name is derived from the Italian verb "*sonare*," to sound, and signifies a composition to be played by musical instruments.

A sonata is therefore an instrumental composition, intended to display the power and expression of the instruments for which it is written.

The sonata consists of four movements. Each movement has a unity of its own, yet they are also related so as to form one varied but consistent whole. It generally begins with an *Allegro*, sometimes preceded by a slow introduction, then follows an *Andante* or *Adagio*, after this the playful *Scherzo* or *Minuet*, and lastly, the *Finale* in quick time.

Emmanuel Bach (1714–1788) established the present form of sonata.

It will be found that the first movement, with its symmetric plan and broadly designed form, presents the solid foundation on which depends the whole subsequent development.

The second movement is intended to soften and tranquilize the mind, previously excited by the first movement; or it may lead through an expression of grief and suffering to a certain consciousness of calm happiness; or again, it may prepare by a temporary lull, for still greater and more intense exultation.

The third movement gives the composer a welcome opportunity, in the *Minuet* or *Scherzo*, to show beside sentiment and passion, humor and jollity.

It is the aim of the *Finale*, or last movement, to reach a climax by developing in the highest degree the characteristics introduced in the former movements.

It must be understood that though all the four movements be different in mood, they will have to blend in order to produce that *feeling of artistic unity* which always gives entire satisfaction, and is in every case characteristic of the true composer.

The composition, therefore, of a good sonata is not the result of a mere chance, but of logical principles. Though a single movement of a sonata may be considered perfect in point of form, it is incomplete in itself, as it represents only a single phase of that intellectual life which it is the object of the sonata to express in tones. By a skilfully selected variety of characteristic expressions, one movement comes as a relief to the other. The real satisfactory clearness of the whole results only from the completeness of the sequence and contrast in the component parts. The composer has at his command all the numerous musical combinations derived from Melody, Harmony, Time and Rhythm; correct and refined taste, scientific knowledge and enthusiasm, tempered by judgment, should be his guides.

The musical development of the sonata depends partly upon the nature of the instrument for which it is written; or in other words, the composer's ideas accommodate themselves quite naturally to the capabilities of the instrument chosen.

A sonata for organ has a more contrapuntal and fugal spirit than one for piano, and a violin sonata lends itself more freely to melodious treatment. It is mainly in this variety that musical art exhibits a superiority over all other arts.

Let it be understood once for all, that the sonata form applies to Trios, Quartets, Quintets, and all Chamber music, also to Symphonies, Concertos and the like, and that any concerted piece that lacks this form belongs to *Medley* or *Potpourri*, which is a formless style where all the subjects are linked together, without that feeling of artistic unity that belongs to the work of the real composer.

DESIGN OF THE FIRST MOVEMENT.

The first movement of the sonata consists of two parts.

First Part.

The chief subject in the tonic of any key.

Transition through connecting phrases to second subject in the dominant, or any other key belonging to the scale.

Coda with cadence, establishing the chosen key.

Second Part.

Thematic development of both subjects of the first part, through free modulation.

Preparation to return to chief subject in the tonic.

Chief subject repeated in the tonic.

Transition to second subject, now in the tonic.

Interruption into a foreign key, leading gradually back to the tonic.

Coda with cadence, establishing the tonic.

Thus it will be seen that the first part of a sonata is formed of two main subjects, which must bear a striking contrast to each other in character as well as rhythm. The connecting phrases, of lesser importance, are woven out of these two main subjects.

After the second subject there is a coda, which must be so composed as to prepare the return to the chief subject, if the first part be repeated, which is often the case, especially in the works of past composers.

Great judgment should be exercised in the selection of the proper intervals of the tones of the two main subjects, so that when we pass into the thematic development of the second part of the sonata, double, triple and quadruple counterpoint, imitations and fugatos may be possible.

The second part should—as a contrast to the first part—abound in fine modulations, and the return to the chief subject be prepared in a satisfactory manner.

What follows is pretty much a repetition of the first part in treatment, with the exception that the second subject reappears commonly in the same key as the chief subject.

As a general rule an interruption will occur before the coda, where the composer breaks the uniformity of the tonic by going suddenly into a foreign key, in order that the coda, which will necessarily occur in the tonic, may fall freshly upon the ear.

ANALYSIS OF FIRST MOVEMENT FROM BEETHOVEN'S (1770–1827) SONATA IN F MINOR—OPUS 57.

First Part.

Chief subject in F minor.
Transition through C major and A♭ minor to the major dominant, E♭ major.
Second subject in A♭ major.
Coda in A♭ minor.

Second Part.

Thematic development of chief subject through E major, E minor, C minor to A♭ major.

Development of second subject in D♭ major, B♭ minor, G♭ major, F♯ major, B minor, G major to C major as the dominant to F minor.

Chief subject in F major.
Transition to second subject, also in F major.
Coda in F minor.

Gradual transition to D♭ major, introducing once more the second subject, modulating back into the dominant of F minor, and a final appendix marked "Più Allegro," composed on the second subject in the tonic.

As a general rule, any first movement of a Beethoven Sonata will present a variety of treatment.

DESIGN OF THE SECOND MOVEMENT.

The chief aim of the second movement is to exhibit sentiment and expression, and it is therefore kept generally in slow time, as Larghetto, Adagio, Andante, etc.

It may be written as a theme with variations, or in the form of a song. Sometimes it is composed in rondo form, in which the chief subject occurs several times, as in the slow movement of Beethoven's Sonata Pathetique, or in the Andante con moto of his Fifth Symphony. However, it is most commonly in the form of a first movement, already described. Owing to its slow time, it must be shorter than the first movement.

ANALYSIS OF SLOW MOVEMENT, RONDO FORM, IN BEETHOVEN'S (1770–1827) SONATA PATHETIQUE—OPUS 13.

First Part.

Chief subject in A♭ major.
Transition into the dominant.
Return to chief subject.

Second Part.

New subject in A♭ minor.
Modulation through E major back to chief subject with triplet figuration in the tonic.
Short coda in the tonic.

DESIGN OF THE THIRD MOVEMENT.

The third movement is either a minuet or scherzo in ¾ time.

This form consists of two parts and a trio, or 3d part—which alternates with the minuet or scherzo and is constructed upon the same plan. There are instances where the trio occurs twice, others where two different trios are introduced; in both cases, the two parts of the minuet or scherzo

will, by their alternations, necessarily occur three times. With the third or last appearance of the minuet or scherzo, there is generally a coda.

However, in some works, the scherzo appears in the sonata form of a first movement, and the place of the trio is then given to the second subject, with a short development leading back to the first subject.

Examples will be found in Beethoven's (1770–1827) second movement—Allegro Vivace—Opus 31, No. 3—which is in fact a sort of slow movement in quick time, and also in the Scherzo of Mendelssohn's (1809–1847) String-quintet and String-octet.

The following will serve as a model of form for the third movement.

First Part.

Chief subject in the tonic, to be repeated.

Second Part.

Development of the chief subject, closing in the tonic, to be repeated.

Third Part.

The third part or trio in two divisions: 1st division, chief subject in relative major or minor key, to be repeated; 2d division, development and close in tonic, to be repeated. Return to first two parts of the Minuet or Scherzo, without repetition.

The third movement is generally kept bright and sparkling, and is therefore a quick movement; in fact, with recent composers, it is the quickest of all. With the old masters it was usually a Minuet, and hence rather slow. It is understood that the trio must be kept entirely distinct from the Scherzo, the two contrasting.

Refer for examples of third movement to Mozart's (1756–1791) Minuet from Symphony in E♭ major. Beethoven's (1770–1827) Scherzos from 2d, 3d, 4th, 5th, 7th and 9th Symphonies, Minuet from 8th Symphony, and from his Piano-sonatas—Opus 27, No. 1; Opus 27, No. 2; Opus 31, No. 3.

DESIGN OF FOURTH MOVEMENT.

The fourth movement, commonly called the finale, is generally written either in the same form described in the first movement, or in the rondo form. Rondo from the Italian—in English, roundelay—is a kind of ancient poem, so called from its form, by which it constantly returned to the first verse, and thus went around. One of its rules was that the first verse should have a complete sense, and yet join agreeably with the other verses, though entirely independent in itself. It was by some writers appropriated to a dance, and in this case the word seemed to express little else than dancing round while singing. Old poets used the word to signify a single strain, both short and lively. Thus a rondo may be described as a short poem sung by a number of persons, whilst others joined hands and danced in a circle to the singing. In the musical rondo, the chief subject appears three or even four times.

Analysis of Last Movement in Rondo Form with Close Resemblance to the Form of the First Movement—Finale of Beethoven's (1770–1827) Sonata, E Minor, Opus 90.

Chief subject in E major, the tonic.
Transition to second subject in the dominant.
Return to chief subject in the tonic.
Alternation of first and second subjects with modulations.
Return to the chief subject in the tonic.
Transition to second subject, now in the tonic.
Interruption.
Chief subject in the tonic.
Short coda.

ANALYSIS OF LAST MOVEMENT FROM BEETHOVEN'S (1770-1827) SONATA IN F MINOR—OPUS 2, NO. 1.

First Part.

Chief subject in F minor.
Transition to second subject in C minor.

Second Part.

New subject in A♭ major.
Transition to F minor.
Chief subject.
Second subject in the tonic.
No coda.

LAST MOVEMENT FROM MOZART'S (1756-1791) SONATA IN A MAJOR—"RONDO À LA TURQUE."

Chief subject in A minor in two divisions, each to be repeated.
Second subject in A major in three divisions:
1st division in A major;
2d division in F♯ minor;
3d division in A major, each to be repeated.
Return of the first division in A major.
Repetition of the two divisions of chief subject and first division of second subject.
Coda in A major.

Other examples of last movements will be found in Beethoven's Sonatas.

STRING-QUARTET.

A string-quartet is a musical composition for four stringed instruments, usually 1st and 2d violin, viola, and violoncello. This form was invented by the Italian Boccherini (1740–1806). Afterwards it was taken up by the German school and greatly improved. More pains and scrupulous care have been bestowed upon the selection of the proper subjects for string-quartets, and more energy and zeal displayed in the construction and working out of the whole than in any other musical work. It is considered the best test of the genius, skill, and taste of a composer. Under the same classification and having the same form, we count the string-duo, string-trio, string-quintet, string-sextet, string-septet and string-octet. Also piano-trios, quartets and quintets; in fact duets, trios, quartets, quintets, sextets, septets, octets and nonets of any combination of instruments, whether string or wind. All these belong to the class we call chamber-music, and are composed in regular sonata form.

As examples of string quartets, the following works are recommended:

Haydn (1732–1809).—F major, Opus 77, No. 2; B♭ major, Opus 76, No. 4; D minor, Opus 76, No. 2.

Mozart (1756–1791).—E♭ major; C major.

Beethoven (1770–1827).—C minor, Opus 18, No. 4; C♯ minor, Opus 131; Russian string-quartet in C major, Opus 59, No. 3.

Cherubini (1760–1842).—E♭ major, No. 1.

Rubinstein (1830–).—G major, Opus 17, No. 1; F major, Opus 17, No. 3.

Of all the other branches there are numerous selections for study, of which Beethoven's (1770–1827) septet in E♭ major, for violin, viola, violoncello, double bass, clarinet, horn and bassoon, is a fine example. Mendelssohn's (1809–1847), Gade's (1817–1890), Svendsen's (1840–) string-octets, and Spohr's (1783–1859) nonet are also worth perusing.

SYMPHONY.

The word symphony is derived from the Greek and signifies a union of tones. Being the highest form of abstract music, it demands of the composer an extraordinary amount of power and originality, and absolutely an independent inspiration.

In a symphony the voices of the different instruments of an orchestra are made to speak in that poetical tongue, which alone, of all languages, portrays the emotions of the soul. It points higher than any musical work bound by words, and by its massive form and combination of different instruments, commands a variety of resources, and has, so to speak, a palette of colors that no chamber-music, either sonata or string quartet can possess.

It is, therefore, the grandest, noblest and highest form of musical composition. As poetry finds its fullest development in the drama, so does music in the symphony. The three bodies of stringed, wooden and brass instruments are united to produce a representation of emotions, in a tragical, heroic, grand, or light and humorous way.

The presence of so many different instruments, each possessing its separate and individual character, and the combination of so many tone colors, offers to composers a wide field for a tone painting.

The chief subject must express the character of the whole work, and all the following subjects must be logically derived from it. The composer must have a complete command and consummate mastery of simple and double counterpoint, fugue, invention of figures and episodes, grouping of phrases, combination of climaxes and final effects, and instrumentation; but, above all, he must have an inborn gift for expressing himself abstractly.

The technical form of the symphony is that of the sonata in its broadest sense. The following symphonies are recommended to the student for study:

Beethoven (1770–1827).—E♭ major, Eroica, No. 3, Opus 55; C minor, No. 5, Opus 67; A major, No. 7, Opus 92.

Schubert (1797–1828).—C major, No. 9.

Gade (1817–1890).—C minor, No. 1, Opus 5.

Tschaikowsky (1840–1893).—E minor, No. 5, Opus 64.

Haydn's (1732–1809) symphonies being shorter in form and less complicated in instrumentation, are, as a general rule, more suitable for the perusal of beginners.

Among the symphonies where the composer points out by the titles the subjects that created the works are the following:

Beethoven (1770–1827).—Pastoral Symphony in F major, No. 6, Opus 68.

Berlioz (1803–1869).—Symphonie Fantastique in C major, Opus 14.

Rubinstein (1830-).—Ocean Symphony in C major, Opus 42.

Raff (1822–1882).—Lenore Symphony in E major, No. 5, Opus 77.

Hamerik (1843–).—Symphonie Tragique in C minor, No. 2, Opus 32.

SUITE.

Suite—from the French—meaning a series of pieces, sprung up simultaneously with the sonata, but deviates from it by having all of its movements—of which there are sometimes five or six—either in dance time or fugato style, as Fantasia, Fugue, Toccato, Aria, Allemande, Bourrée, Chaconne, Courante, Gavotte, Gigue, Minuetto, Romance, Passe-pied, Polonaise, Rigaudon, Sarabande, Siciliano, etc.

Among the following composer's works may be found innumerable examples of the Suite.

Corelli (1653–1713). Couperin (1668–1733).

Scarlatti (1659–1725). Handel (1685–1759).

J. Seb. Bach (1685–1750).

At present there is a revival of the suite, but constructed upon a different plan, the composer presenting connected pieces more in the style of the symphony. A model modern suite compares

with the symphony as a free fugato would compare with a strict fugue ; it is a kind of light symphony without the strictness of form, but with the same amount of counterpoint, design and instrumentation.

An example of this will be found in Hamerik's (1843–) 5th Norse Suite in A major. Op. 26.

Lachner (1804–), Raff (1822–1882), Grimm (1830–), and others of their school have successfully treated this form, but have thought it necessary to keep their musical ideas in the old style. The French composers, Saint Saëns (1835–) and Bizet (1838–1875), have written suites, modern in feeling and taste.

OVERTURE.

Overture—corruption of the French ouverture—signifies an introductory or opening piece to an opera, oratorio, etc., and was invented by Lully (1633–1687). This form originally consisted of a slow movement in common time, followed by a fugue, sometimes in a different time and different key, after which the slow movement was entirely or partly repeated.

It became popular, and the composers of the 18th century adopted it. The Italian overture, as composed by Scarlatti (1659–1725), consisted of three movements, the first and last movements being rather quick; the middle movement, scored for fewer instruments, presents a different character from the other movements, and is in slow time. Knowing that the Italians call overture "*Sinfonia*," we see in this the dawn of the modern term for symphony.

The modern overture is written either in the form of the first movement of a symphony, or in the potpourrri or medley style, of which, as previously stated, we take no notice.

Rossini (1792–1868), in his overture to William Tell, writes on the plan of the old Italian sinfonia. This overture contains four distinct movements. The following is a plan of Handel's (1685–1759) overture to his oratorio "Theodora," and it will be seen that in it he adopted the old Italian form.

Maestoso.—$\frac{4}{4}$ time, G minor.
Allegro, Fugue.—$\frac{4}{4}$ time, G minor.
Larghetto, Minuetto.—$\frac{3}{4}$ time, E♭ major.
Courante.—$\frac{3}{4}$ time, G minor.

The concert-overture is usually composed in the form of the first movement of a sonata and intended for concert performance.

The following is a list of model opera and concert overtures :

Mozart (1756–1791).—Overture to The Magic Flute.

Beethoven (1770–1827).—Overture to Lenore, No. 3; Consecration of the House, C major, Opus 124; Coriolanus; Egmont.

Weber (1786–1826).—Overtures to The Freischütz, and Oberon.

Mendelssohn (1809–1847).—Overtures to Midsummer Night's Dream, and Fingal's Cave.

Berlioz (1803–1869).—Overtures to King Lear, and Benevenuto Cellini.

Gade (1817–1890).—Overture, Echoes from Ossian.

The composers of the present day commence to neglect this form.

CONCERTO.

Towards the latter end of the 17th century Joseph Torelli (1615–1708) introduced the concerto form. It generally consists of three movements in which one particular instrument, piano, violin, violoncello, flute, oboe, horn, or any other instrument, is regarded as a solo instrument accompanied by an orchestra. The form is that of a sonata with the addition of the so-called "*Tutti*," which is performed by the orchestra and contains both the chief and the second subject, except with modern composers.

The first movement is an Allegro, the second a short, slow movement, and the last movement generally in Rondo form.

One of the features of the concerto is the cadence, which generally occurs toward the end of the first movement; this cadence commences on the dominant and presents a summary of the entire movement in order to give the solo player an opportunity to display his skill as a performer.

The beauty of a good concerto consists in the interweaving of the orchestral parts with the principal part, thus making it a kind of dialogue.

CONSTRUCTION OF FIRST MOVEMENT.

Orchestra.—Chief subject in the tonic.
Second subject in the dominant; sometimes in the tonic.
Solo.—Repetition of chief and second subjects.
Tutti.
Solo.—Thematic development of both subjects.
Short Tutti.—Generally leading to the solo.
Solo.—Second subject in the tonic.
Short Tutti.—Ending with the 4/6 chord.
Solo.—Cadence.
Final Tutti.

SECOND MOVEMENT.

This movement is generally much shorter, and in many cases the Romanza, or any other short lyrical form is used.

The slow movement is intended to exhibit grace, elegance, tenderness and suavity as contrasting with the energy of the first movement, and brilliancy of the last.

THIRD MOVEMENT.

The finale is mostly written in $\frac{6}{8}$ or $\frac{2}{4}$ time, and, as before stated, is generally in Rondo form.

Examples of concertos composed for single solo instruments and orchestra will be found in the works of the following composers:

Viotti (1753–1824).—Violin-concertos.
Rode (1774–1830).—Violin-concertos.
Mozart (1756–1791).—Concertos for various solo instruments.
Hummel (1778–1837).—Piano-concertos in A minor and B minor.
Spohr (1783–1859).—Violin-concertos.
Beethoven (1770–1827).—Fourth and fifth piano-concertos.

Mendelssohn's (1809–1847) piano-concerto in G minor, and of modern works, Liszt's (1811–1886) and Rubinstein's (1830–) piano concertos are worth perusing.

The double and triple concertos are constructed in the same manner, except that instead of one principal instrument, the composer employs two, three or four solo instruments. Of this form examples will be found in J. Seb. Bach's (1685–1850) Concerto in D minor for three solo pianos and stringed orchestra, and in Mozart's (1756–1791) Concerto for solo-piano, solo-flute, solo-harp and orchestra; Beethoven's (1770–1827) Concerto for solo-piano, solo-violin, solo-violoncello and orchestra.

The *concert-piece* is smaller and shorter in form than the concerto; the slow movement is generally a romance and the last movement a repetition of the first, or a brilliant rondo, all of these movements forming one, without any pause between.

The Concert-piece in F minor, by Weber (1786–1826), for solo-piano and orchestra, is a kind of suite, consisting of four movements without interruption.

Saint-Saëns's (1835–) Concert-piece in A major, Opus 20, for solo-violin and orchestra, is a good example of this form.

SMALLER FORMS.

PRELUDE.

Among the smaller forms is the prelude, which is generally a slow, grave, or solemn opening to any act of an opera, oratorio, fugue, or any Allegro movement.

It can also be used to determine a short sentimental piece of a singing order. Example of this will be found in the prelude to the fourth act of Hamerik's (1843–) opera Tovelille.

TOCCATO, CAPRICCIO, IMPROMPTU.

Toccato, from the Italian verb "toccare," to touch, is a composition in which a certain passage or figure is continuously repeated either in strict or free style.

In modern music, the capriccio and impromptu may be considered as a descendent of the ancient Toccato.

SERENADE AND NOCTURNE,

Generally written for wind instruments, are terms for a form very much on the suite order.

Hummel's (1778–1837) Nocturne, Opus 99.

Spohr's (1783–1859) Nocturne, Opus 34.

Beethoven's (1770–1827) Serenade, Opus 8, for violin, viola and violoncello.

If the term Serenade or Nocturne is applied to piano music, it indicates a slow piece of a dreamy or sentimental character, as Chopin's (1810–1849) nocturnes.

FANTASIA.

Fantasia is the immediate result of a sudden inspiration, and need not follow any strict rule.

VARIATIONS.

Variations are based upon the principle that an air may appear in various figures and rhythms, as well as in a varied diversion or complication of parts or changes of harmony with a contrapuntal or fugal treatment, provided the melodious order in phrasing is pursued throughout.

Examples of this form may be found in the piano works of the following composers:

Rameau (1683–1764).—Gavotte, with variations in A minor.

Handel (1685–1759).—Air and variations in D minor.

Beethoven (1770–1827).—Air, variations and fugue in E♭ major, Opus 35; Theme and 32 variations in C minor; Thirty-three variations on a theme by Diabelli.

Mendelssohn (1809–1847).—Variations Serieuses in D minor.

RHAPSODY.

Rhapsody, from the Greek, signifies a recital from the heroic poems of Homer, or other Greek poets. In the music of the present day, a rhapsody means a movement consisting of fragmentary pieces, folk-songs and other popular airs combined in an artistic manner.

Liszt (1811–1886) has composed fourteen rhapsodies for piano, upon popular Hungarian airs.

MARCH.

This form dates back more than three hundred years, and is composed in $\frac{2}{4}$ or $\frac{4}{4}$ time upon the plan of the scherzo or minuet—in two parts and a trio.

SONG WITHOUT WORDS.

In 1831, Mendelssohn (1809–1847) introduced this form. It is generally a short air of lyrical expression, composed for a solo instrument.

ÉTUDE.

Étude, from the French, meaning study, was introduced about the middle of the 18th century and was solely intended for acquiring proficiency in the execution of certain passages.

This form has in course of time assumed more important proportions. Examples will be found in Clementi's (1752–1832) "Gradus ad Parnassum," and in Cramer's (1771–1858), Chopin's (1810–1849), Liszt's (1811–1886) and Rubinstein's (1830–) studies for piano.

DANCES.

Dances are written in strict time and rhythm, and some of them are frequently used in movements of suites and symphonies.

The following are the most important:

Gavotte.—A graceful French dance in $\frac{4}{4}$ time.

Sarabanda.—A slow, stately dance in $\frac{3}{4}$ time—of Spanish origin.

Chaconne.—From the Arabic, signifies a grave dance in $\frac{3}{4}$ time, where the subject is in the bass, and continuously repeated.

Minuetto.—A slow, dignified dance in $\frac{3}{4}$ time.

Siciliano.—An Italian dance of rural simplicity and tenderness, in $\frac{6}{8}$ time.

Waltz.—Of German origin, in $\frac{3}{4}$ time.

Hornpipe.—Sailor dance of English origin, in $\frac{2}{4}$ time.

Springing Dance.—Of Scandinavian origin, in $\frac{3}{4}$ time.

Tarantella and *Saltarello.*—Of Italian origin, in $\frac{6}{8}$ time, or in $\frac{2}{4}$ time of triplets.

Polonaise and Mazurka.—Of Polish origin, in $\frac{3}{4}$ time.

Boursjaka and Cossack.—Of Russian origin.

Czardas.—Hungarian folk-dance in $\frac{3}{4}$ time, beginning slowly and gradually increasing in speed.

Unlec.—Dance of the dead—of Bohemian origin, and up to the last century danced by night in the cemeteries.

VOCAL FORMS.

1. Song.
2. Opera.
3. Cantata.
4. Oratorio.
5. Mass.

Any music with words loses its independence and abstract tendency because it is expected to portray the emotions of the text. It is no longer sole master in its own domain of abstract feeling, but enters into the service of poetry.

SONG.

Song, a short lyric poem set to music, generally for one voice, with piano accompaniment.

The chief requirements of a song, are an easy flowing meter, and an agreeable, striking rhythm, simplicity, repose, truth of expression, and an absolute musical representation of the idea of the words.

Under the song form comes the ballad, derived from the Italian verb "ballare," to dance, and in ancient times was frequently sung as an accompaniment to the dance.

In the folk-songs of the British Isles and Scandinavia, the texts are taken from some heroic myth, or are a description of some historic event.

The modern ballad has departed from the simplicity of the original form, each verse being different in treatment, according to the emotions portrayed.

MADRIGAL.

Madrigal is a composition for three or more voices without accompaniment. Sometimes it is written in the form of a single melody, and sometimes in that of a motet. Italy and England excelled in madrigals during the years 1550–1650.

GLEE.

Glee, from the adjective glad, is a form of composition for mixed voices, peculiar to the British people. It flourished from 1750–1837. There are but few glees composed at the present day.

The plantation songs of the United States of America, where the melody is sung by a single voice unaccompanied, and the refrain by a chorus, may be considered as a sort of glee.

OPERA.

The word opera, from the Latin opus, signifies work.

In a musical sense it may be defined as a work of art, in which words, music, action, costumes, machinery, scenery, and sometimes dancing, combine to represent upon the theatrical stage a certain dramatic story.

This story may be tragic, comic, romantic or lyric. "The Jewess," by Halévy (1799–1862), is a tragic opera; Donizetti's (1798–1848) "Elixir of Love," comic; Weber's (1786–1826) "Freischütz," romantic, and Bellini's (1802–1835) "Sonnambula," lyric.

Thus an opera is a dramatic plot set to music, divided into acts, and these acts again divided into scenes. The music is both vocal and instrumental, the vocal parts predominating, and consists of recitatives, airs and dramatic scenes for solo voices; duets, trios, quartets, ensemble pieces, choruses and finales.

The independent instrumental parts are the overture, entre-acts and introductions.

The history of the opera is as follows: During the year 1594 three young Florentine noblemen, united by similarity of tastes and customs, and by love of music and poetry, originated the idea of reviving the musical declamation of the Greek tragedy. They interested Rinuccini in writing a text founded upon the fable of Daphne, and the text of this tragedy was set to music in 1594 by Peri, born in the latter half of the sixteenth century. It was a species of measured incantation, languid and monotonous. This was improved upon, and later on Peri wrote "Eurydice," the first opera, which was performed in the year 1600.

By degrees the opera developed, but degenerated toward the end of the last century, when it became a spectacular piece, which appealed only to the eyes, and in which music was the last consideration; as Goldoni said, "it was *Paradise* for the eyes, but *Hell* for the ears."

Gluck (1714–1787) purified the opera, and in his works of "Alceste" and "Iphigenia in Aulis," introduced the present form.

The idea of uniting speech, song and action in one work was an object the ancient Greeks desired to realize; this problem still remains unsolved, as the drama debars music from its development in proper artistic form, and music retards the regular life of the drama. Furthermore, no poetry is abstract enough to satisfy music, and no music is so stealthy in tone volume as not to hide poetry.

Notwithstanding the efforts of Gluck (1714–1787) and Wagner (1813–1883) to the contrary, music and poetry combined with equal rights must necessarily interfere with each other. Furthermore, the additional features of action, scenery, costumes, machinery, stage-effects and dancing tend to abstract the mind from the music; hence the reason for the opera satisfying the unmusical.

ITALIAN OPERA.

Italian opera music is more natural than cultivated, and is considered by Italians themselves as a spontaneous and passing pleasure.

The Italian melodies possess a thoroughly vocal construction, a broad and easy flow and a strict rhythm, generally of four bars. The music is fresh, clear and transparent, and always very precise. The voice part is never interfered with nor trespassed upon by the orchestra; it rises, so to speak, above the accompaniment, which dwindles into mere insignificance. The Italian opera has a kind of half-spoken recitative, called "*recitativo secco*," as a connecting link which binds one air to another, as they never admit any spoken text.

The following is a list of some of the Italian opera composers and the names of their principal works:

Peri (17th century), the inventor of the opera.—"Eurydice," the first opera, composed in the year 1600.

Lully (1633–1687).—"Roland," "Armida," "Iphigenia."

Scarlatti (1659–1725), who composed 115 operas.—"La Principessa Fidele."

Porpora (1687–1767).—"Ariane e Tesco," "Siface."

Piccinni (1728–1800) composed 130 operas.—"Roland," "Dido," "Alessandro."

Sacchini (1735–1786).—"Cid," "Tamerlano;" composed 78 operas.

Cimarosa (1754–1801), who composed 82 operas, among which is "Secret Marriage."

Cherubini (1760–1842).—"Lodoiska," "Elisa," "Medea," "Faniska," "The Water Carrier."

Paer (1771–1839).—"Agnese," "Sargino," "Didone."

Spontini (1778–1851).—"The Vestal," "Fernando Cortez."

Rossini (1792–1868).—36 operas; "Moses," "Tancred," "Semiramis," "William Tell," "Barber of Seville."

Donizetti (1798–1848).—70 operas; "La Favorita," "Lucrezia," "Lucia."

Mercadante (1798–1870).—"Maria Stuart," "Elisa."

Bellini (1802–1835).—"Norma," "La Sonnambula."

Verdi (1813–).—"Aida," "Don Carlos," "Othello."

Recently there have arisen a number of young Italian composers, among whom are Mascagni and Leoncavallo, who excel in true dramatic feeling, effective counterpoint and brilliant instrumentation.

FRENCH OPERA.

The French opera, or "Opera Comique," is a form peculiar to the French, in which all the lyrical parts are set to music and the remainder spoken. Thus the dialogue is an essential part of the whole, the plot sometimes being very intricate and complicated. The writers humor the French taste by providing amusement in the shape of an interesting, witty and spirited text. The singers must for this reason be excellent actors, and the French public would consider a rich and powerful voice not only superfluous, but actually a disturbing element. On the other hand, they appreciate a graceful delivery, a tasteful and precise variation of light and shade, and a correct and refined enunciation.

In the "Opera Comique" the music has to wait patiently until it is allowed to appear; the text is the most important. The chief qualities of the music are great clearness, a decided charm of rhythmical life of expression, simplicity of harmony, an undeniable elegance and never-failing taste. Any large ensemble piece, the recitative and dramatic scene are not found in the "Opera Comique." However, in Paris there is a "Grand Opera," where the operas of different nations are performed in the French language on the Italian plan, properly arranged to suit the French taste.

The following is a list of some French opera composers with the names of some of their principal works:

Rameau (1683–1764).—"Castor and Pollux," "Samson," "Zoroastre."

Philidor (1727–1795).—"Le Maréchal," "Bélisaire," "Persée."

Monsigny (1729–1817).—"Aline," "The Deserter," "Felix."

Grétry (1741–1813).—59 operas; "Lucile," "Richard Cœur de Lion."

Méhul (1763–1817).—42 operas; "Uthal," "Le Jeune Henri," "Joseph and his Brethren in Egypt."

Isouard (1775–1818).—42 operas; "Joconde," "Cinderella."

Boieldieu (1775–1834).—23 operas; "Le Calife de Bagdad," "Le petit Chaperon," "La Dame blanche."

Auber (1782–1871).—"The Bride," "The Crown Diamonds," "The Black Domino," "Fra Diavolo," "Muette de Portici," "Masaniello" (Grand Opera).

Hérold (1791–1833).—"Zampa," "Pré aux Clercs."

Halévy (1799–1862).—"The Lightning," "The Jewess."

Adam (1803–1856).—"King for a Day," "Le Postillon de Lonjumeau," "Le Proscrit."

Berlioz (1803–1869).—"Beatrice and Benedict," also "The Trojans" (grand opera, lasting three nights).

Bizet (1838–1875).—"Fair Maid of Perth," "Carmen."

Gounod (1817–1893).—"Faust," "Romeo and Juliet."

Thomas (1811–).—"Mignon," "Hamlet."

GERMAN OPERA.

Romance is best adapted to the sympathetic nature of the Germans, and the combination of the supernatural with the chivalrous is a feature of their opera texts. The plot of the romantic opera is generally based upon subjects of the Picts, and the battle between evil and moral principles; it draws largely upon the national myths and legends, and relies also upon the manifold means of the orchestra to describe, heighten and complete the dramatic effects. Its characteristic expression is the principal one, and it is in this that the composer's imagination is active and inventive.

The following is a list of some German opera composers and the names of some of their principal works:

Keiser (1673–1739).—116 operas; "Basilius," "Ismène," "Janus," "Circe."

Handel (1685–1759).—51 operas; "Almira," "Nero," "Rinaldo," "Ezéo," "Alcina."

Hasse (1699–1783).—Over 100 operas; "Dalisa," "Dido," "Semiramis."

Gluck (1714–1787).—21 operas, among which are "Orpheus," "Armida," "Alceste," "Iphigenia in Aulis."

Haydn (1732–1809).—24 operas; "Dido," "Armida," "Genoveva."

Dittersdorf (1739–1799).—30 operas; "The Doctor and Apothecary."

Mozart (1756–1791).—8 operas; "Don Giovanni," "Magic Flute," "Marriage of Figaro."

Kreutzer (1782–1849).—24 operas; "A Night in Granada."

Spohr (1783–1859).—"Jessonde," "Faust," "Zemire and Azor."

Weber (1786–1826).—8 operas; "Freischütz," "Euryanthe," "Oberon."

Meyerbeer (1791–1864).—14 operas; "Huguenots," "L'Africaine," "Robert of Normandie," "Le Prophète."

Marschner (1795–1861).—"Templar and Jewess," "Hans Heiling," "The Vampire."

Lortzing (1803–1851):—"Undine," "Czar and Carpenter."

Nicolai (1810–1849).—"Merry Wives of Windsor."

Flotow (1812–1884).—"Martha," "Stradella,"

Wagner (1813–1883).—"Tannhäuser," "Lohengrin," "Tristan and Isolde," "The Master Singers," "The Ring of the Niebelungs," (lasting four nights).

ENGLISH OPERA.

At all times an English public liked pretty songs and ballads in their operas. For instance, "The Beggar's Opera" has 69 songs, and its sequel, the opera "Polly," has 71 songs. Even at the present day the most gifted English opera composers have to suffer for this predilection. Many examples of correct dramatic feeling in English opera composers could be given, although it is certain that the very works which contain real dramatic life have never enjoyed that popularity with the English to which they are entitled.

The following is a list of some English opera composers and the names of some of their principal works.

Purcell (1658–1695).—"The Tempest," "Theodosius," "Don Quixote," "King Arthur."

Arne (1710–1778).—23 operas; "Rosamonde," "Comus."

Arnold (1740–1802).—40 operas; "The Maid of the Mill."

Hook (1746–1830).—11 operas; "Lady of the Manor," "Soldier's Return."

Shield (1754–1829).—16 operas; "Marian," "Rosina," "Robin Hood."

Reeve (1757–1830).—21 operas; "Turnpike Gate," "Paul and Virginia."
Storace (1763–1796).—14 operas; "Dido," "Pirates."
Bishop (1782–1855).—63 operas; "The Noble Outlaw," "The Slave."
Balfe (1808–1870).—"Don Caesar de Bazan," "Bohemian Girl."
Macfarren (1813–).—"Robin Hood," "Charles II," "Don Quixote."
Wallace (1815–1865).—"Maritana," "Lurline."
Benedict (1804–).—"The Brides of Venice," "The Crusaders."

Besides the above-mentioned nations, the Russians, Swedes, Danes, Hungarians and Bohemians, each possess a "National Opera," where during the last century operas by native composers have constantly been performed.

THE FORM OF THE OPERA.

1. Overture.
2. Recitative.
3. Aria.
4. Arietta.
5. Arioso.
6. Cavatina.
7. Dramatic Scene.
8. Duet, Terzet, Quartet, Quintet, Sextet, Septet, Octet, etc.
9. Ensemble Pieces.
10. Chorus.
11. Finale.

OVERTURE.

An instrumental number before the rise of the curtain. (See "Overture" in Instrumental Form.)

RECITATIVE.

Recitative is a musical declamation where the feeling is merely awakened, gradually growing, or spasmodically appearing and disappearing, when the musical expression cannot be firm or solid enough to form an air. It serves to connect the different situations and scenes, and to narrate events past, present and to come. The recitative is not bound to any particular or systematic time. The singer only dwells upon words which, even in speaking, require a certain accent and emphasis. Words succeed each other as in a monologue, and but little attention is paid to the especial value of the notes; for so long as a clear and intelligible pronunciation prevails, the actual aim of the recitative in regard to time is satisfied and attained. The length of the notes, as given by the composer, are merely approximations, executed by the singer according to his fancy and pleasure, sometimes long, and sometimes short, and at other times in a hurried, passionate sort of delivery and then again in a style that is tranquil and sedate, according to the sentiment expressed by the words and the singer's conception of it. The laws of prosody in regard to long and short syllables, accents, emphasis and punctuation must be strictly observed.

In the recitative the words are never repeated, and only one note is sung to each syllable. The singer must study to express with energy and propriety the impassioned feeling conveyed by the words.

The Italian and German composers always put the recitative in common time; some French composers, however, mix it with triple time. With regard to the accompaniment, we recognize the simple and the fully accompanied recitative. Simple or plain recitative is generally written with no other accompaniment than a bass, of which the notes are figured so as to indicate the chords upon which the recitative is constructed, the harmony being marked at the starting of the chords. The harmonies thus indicated were formerly played by the harpsichord, the double-bass playing the bass part; later by the piano or several violoncellos.

In the fully accompanied recitative the instruments, after having given the key, perform, during the pauses of the recitative, short passages, as, for instance, in Donna Anna's air "Crudele" from Mozart's (1756–1791) "Don Giovanni." If there occur, in the course of a recitative, passages of a

more lyrical expression, the composer generally substitutes for the mere recitative a short cantabile, and that kind of recitative is called "Recitativo Arioso."

In the recitative, exact time between the singer and the accompaniment must be strictly observed; all that the voice recites in any one phrase must belong to a single chord: the singer must never recite upon a chord not previously heard by the accompaniment, for, as the voice passes from one chord to another, it is the peculiar province of the accompaniment to support and assist it. Long sustained notes, such as whole and half notes, are sometimes given to the orchestra, or tremolo used in place of sustained notes.

The recitative is decidedly the oldest form for setting text to music. It was introduced into the opera by Peri, and was so powerfully recommended by its effects as to be speedily adopted. Later it was much improved upon by Monteverde (1568–1649), Carissimi (1582–1674), and Scarlatti (1659–1725).

ARIA.

An aria is a tuneful air or melody of a certain definite form. Although the form aria was first applied to vocal music only, it was afterwards used for melodious pieces of instrumental music, as in Handel's (1685–1759) and J. Seb. Bach's (1685–1750) suites.

Haydn (1732–1809) says: "Let your melody be good, for it is the life, spirit and essence of a composition."

In the sixteenth and seventeenth centuries the word *aria* was applied to a cheerful song, composed for one or more voices.

The operatic aria appears in two kinds: as a grand aria with a *da capo*, or with a free repetition. The first ending is the oldest form, and the last of more modern date. The structure of the grand aria is very similar to the minuet in the sonata or symphony. The words consist of two sentences, of which the first expresses the general feeling and the second the particular features of that feeling. The melody also appears in two parts, according to the duration of the poem, but a third part is frequently added, and is almost always a repetition of the first:

Part First.

An instrumenal prelude.
Principal melody.
Modulation into the dominant.
Return to the tonic, with variations.
Short instrumental postlude.

Part Second.

A second melody, much shorter and more concise than in Part First.

Part Third.

Repetition of Part First with new variations of principal melody.

As the second part is conceived in a broader style, and intended to portray the particular sentiment, it is here that the composer tries to show his skill. It might be said that the first part belonged to the singer and the second part to the composer, inasmuch as no ornaments were introduced into it, and as the harmonization was richer and the treatment more interesting than that of the first part. The pleasure of the public was so great in these variations and ornamentations introduced by the singers that the chief character of the music was overlooked, and the aria became a welcome means of showing off the technical skill of the performer; from this undue prominence of vocal execution resulted. See the so-called "*Aria di Bravura*," Rossini's (1792–1868) "Semiramis" and "The Barber of Seville." The composer who was most successful in infusing dramatic feeling into these bravura arias was Mozart (1756–1791).

ARIA IN FREE FORM.

As far as aria was the expression of particular personal feeling emanating from the character and individuality of the person, it was eventually felt that this form of dramatic life was insufficient. For this reason the later composers saw the necessity of adhering more strictly to the sense of the words, the strict form of the grand aria was abandoned and a free form adopted, showing itself in as many different kinds of arias as there are dramatic situations.

OPERATIC ARIA.

The operatic aria is an expression of the innermost feelings, which are the result of the preceding dramatic situation.

DRAMATIC ARIA.

Dramatic aria is the musical portrayal of subjective feelings. The artistic treatment and union of vocalization with elaborate treatment is a test of great and rare ability.

SACRED ARIA.

Sacred aria is still another form of aria, and is mainly found in oratorios. The musical structure generally is that of a grand aria with a *da capo*. Its expression is more lyrical, the outpourings of a devout soul, the interpretations of the feelings of the whole assemblage presented in an objective manner. It must not be emotional, and must exhibit no passion. See Stradella's (1645–1678) church air "Pietà, Signore."

CONCERT ARIA.

Concert aria came into fashion towards the end of the last century. The form of the concert aria is partly that of a grand aria with an intermingling of the structure of the dramatic aria and the brilliant features of the *aria di bravura*. In a measure it is a kind of independent scene, something like an instrumental solo. It is generally preceded by a recitative. Examples will be found in Beethoven's (1770–1827) Scene and Aria "Ah! Perfido," Mendelssohn's (1809–1847) Concert Air, Opus 94. This form, however, is generally confined to the concert room.

ARIETTA.

Arietta is a shorter and smaller form of aria—an aria without the second part. Zerlina's two ariettas in Mozart's (1756–1791) "Don Giovanni" are good examples.

ARIOSO.

Arioso is a kind of melody which stands between recitative and aria. It was at one time customary to finish a long recitative with an arioso, in which the previous sentiments were developed. Arioso also appears as a kind of song or dialogue between two persons.

CAVATINA.

Cavatina is a slow, melodious air, in but one part, not to be repeated, and has generally a longer text than the aria, with few or no repetitions of words. It is a contemplative and meditative composition, florid vocalization being avoided.

DRAMATIC SCENE.

If an opera contains a situation which is so grand, important and decisive in the development of the text that the ordinary form of an aria would not prove satisfying, and if the feelings of interest, curiosity and awe have to be awakened, then the composer employs the dramatic scene. It is an alternation of recitative and arioso, with greater freedom allowed in the form. A splendid example is the fourteenth scene of Marschner's (1795–1861) opera "The Vampire."

DUET, TERZET AND QUARTET.

A duet, terzet or quartet is a piece for two, three or four solo voices. They are all of the same importance in development and characteristic execution of the principal idea, and are written in polyphonic style, each part being individually developed in point of design as well as rhythm. Although united in the desire of attaining the same end—having each their own individual feeling concerning it—when the ensemble is effected, it comes about by the free will, and not by the submission of one part to another. In this respect it differs from the two, three and four part song. It sometimes relies upon the aria form, and at other times upon the dramatic scene, in which latter case the form is free. The quartet from Verdi's (1813–) "Rigoletto" is a fine example.

ENSEMBLE.

Quintet, sextet, septet, octet and nonet are ensemble pieces composed for five, six, seven, eight and nine solo voices, either with or without the supplement of a chorus. These forms may be so constructed that the scene commences with two or three voices, which are gradually joined by the others. The coming and going of these voices should always be the result of dramatic necessity.

Analysis of Mozart's (1756–1791) "Don Giovanni," Opening Scene from First Act.

1. Solo—Leporello.
2. Terzet—Donna Anna, Don Juan and Leporello.
3. Terzet—Leporello, Don Juan and the Father.

These three situations are set only in two movements, "Molto allegro" and "Andante."

The sextet in the 2d act of the same opera consists of:

1. Solo—Donna Elvira.
2. Solo—Leporello.
3. Concerted—Donna Anna and Don Octavio.
4. Quintet—Donna Anna, Donna Elvira, Zerlina, Don Octavio, Mazetto.
5. Sextet—Donna Anna, Donna Elvira, Don Octavio, Zerlina, Mazetto, Leporello.

These five situations are set in one movement, Andante, in common time, which, however, becomes a little more animated when the six persons sing together.

Fine examples of ensemble pieces are to be found in Mozart's (1756–1791) "Marriage of Figaro," Rossini's (1792–1868) "William Tell," Meyerbeer's (1791–1864) "Huguenots," Weber's (1786–1826) "Freischütz," and the prayer scene in the first act of Wagner's (1813–1883) "Lohengrin."

CHORUS.

The chorus—from the Greek—is a musical piece in a number of parts, each part being performed by several voices. It is the united expression of a number of individuals whose feelings are aroused by an event; for this reason the composition of a chorus must be such that not only one individual, but the whole company approves of it; all individuality must cease for the expression of an united opinion. The great effect, the mighty power of a chorus consists in the grandeur of a collective expression and volume of tone produced by a large number of persons all united in one task. In ancient times a chorus consisted of bass, tenor and alto parts, the latter part performed by boys; the composer wrote *"A capella,"* or without instrumental accompaniment. Later on, another part was added, the soprano, which was to be sung by women. When instrumental music was introduced, the choruses were generally written for two female parts, soprano and alto, and two male parts, tenor and bass. However, still later these parts were divided into many more—six, eight, ten, twelve, sixteen or more parts. If divided into choirs, each choir consisted of four parts. Choruses may also be written for either male or female voices alone, as the situation may require. The re-introduction in modern times of the boys' voices singing the plain song while the rest of the chorus renders the counterpoint, is effective; in Meyerbeer's (1791–1864) "Prophet" and Bizet's (1838–1875) "Carmen" are examples. The styles of composing a chorus are the fugal, strict and free. The strict style adopts the fugal treatment and relies upon the system of double counterpoint. The free style is more like the arioso, or dramatic scene.

FINALE.

The finale comprises all possible forms of which an opera consists, from the recitative to the most polyphonic ensemble piece, and is in reality the climax of an act.

A composer has to make a precise disposition of all the distinct parts, he has to seek and find all varieties of the situation, proper form, key, movement and instrumentation for true and suitable musical expression. He will consider which part of the finale has to be brought forward, which part to be held in the background. He must grasp every point of the dramatic situation that will assist in giving clearness and strength to the whole structure.

ANALYSIS OF MOZART'S (1756–1791) FINALE OF THE FIRST ACT OF THE "MAGIC FLUTE."

1. Quartet—Larghetto, C major, common time, 38 bars—Tamino and three Genii.
2. Recitative, obligato with short arioso—Tamino, Sacerdote and Priests.
3. Arietta—Andante, common time, 68 bars—Tamino.
4. Duet—Andante in G major—Pamina and Papageno.
5. Ensemble—Allegro in G major, common time, 62 bars—Pamina. Papageno, Monostatos and chorus of men.
6. Duet—Andante, G major, common time, 24 bars—Pamina and Papageno.
7. Ensemble and chorus—Allegro maestoso, C major, common time, 44 bars.
8. Duet—Larghetto, F major, common time, 46 bars—Pamina and Sarastro.
9. Ensemble and chorus—Allegro, F major.
10. Recitative—Sarastro.
11. Chorus in C major, common time, 69 bars.

An excellent example also is the finale of the third act of Rossini's (1792–1868) "William Tell."

CANTATA.

Cantata from the Italian *cantare*, to sing, is a lyrical composition for solo voices, chorus and orchestra. It is written in the form of an opera, but without sufficient dramatic action to warrant its production upon the stage; it could also be classified as a secular oratorio. The cantata expresses sentiment produced by the consideration of great events, heroic deeds, scenes from nature, contemplation of divine might, etc., the words being founded upon Christian faith, the worship of ancient myths and like subjects.

Carissimi (1582–1674) introduced the cantata.

The musical form of the various recitatives, airs, duets, choruses, etc., is that of the opera.

The cantata is peculiarly adapted to those reserved nations whose emotions do not tend naturally to express themselves in the abandon of the opera.

Handel's (1685–1759) "Alexander's Feast" and "Water Music;" Haydn's (1732–1809) "Seasons;" Gade's (1817–1890) "The Erl King's Daughter" and "Crusaders" are fine examples, in which the composers excel in a refined treatment of counterpoint and instrumentation.

ORATORIO.

The word oratorio, derived from the Latin *orare*, to pray, was originally an improvement upon the "*Laudes Spirituales*," or sacred songs and dialogues which were sung by the priests in the oratory. It was first introduced by Philip Neri. However, the first oratorio of which we have an account, was entitled "The Presentation of the Body and Soul of Christ"; it was composed by Emilio del Cavaliere, born in 1550, and was printed and performed in Rome in the year 1600, on a stage in a church, with scenery, costumes and dances. At present an oratorio is a spacious kind of musical biblical drama, for solos, chorus and orchestra, and intended only for concert performance.

Much effect would be gained by rendering oratorios in churches, where the religious surroundings tend to place the people in a proper frame of mind for entering into the spirit of the music.

The musical form is essentially the same as the opera, and is a combination of recitatives, arias, duets, quartets, choruses and instrumental music. However, a feature in the oratorio is the chorale or psalm-tune of note against note, slowly sung by the chorus.

J. Seb. Bach (1685–1750) and his followers created the figured chorale.

The difference between oratorios and passion music lies in the text. The oratorio depicts some biblical event, and the passion music treats only of the suffering and death of Christ.

The following list are fine examples of this form: J. Seb. Bach's (1685–1750) "Christmas Oratorio" and "Passion Music;" Handel's (1685–1759) "Israel in Egypt," composed in 1738, "Messiah," composed in 1741; Haydn's (1732–1809) "Creation;" Mendelssohn's (1809–1847) "Elijah" and "St. Paul;" Spohr's (1783–1859) "Last Judgment;" Liszt's (1811–1886) "St. Elizabeth."

MASS.

The mass, together with the oratorio, forms the most important branch of church music. The mass is derived from the Latin "*Missa est.*"

It comprises the Kyrie, Gloria, Credo, Sanctus, Benedictus and Agnus Dei, usually composed in a contrapuntal or fugal style for solo voices and chorus.

Almost every composer of eminence wrote masses, and if a complete list of these compositions were given the number would exceed ten thousand.

Palestrina's (1524–1594) Mass to Pope Marcello, composed for six voices, is of great purity and beauty. Among other composers of masses may be mentioned Hummel (1778–1837), Haydn (1732–1809), Mozart (1756–1791), Cherubini (1760–1842), Beethoven, (1770–1827).

The *requiem* is a funeral mass, and contains generally Requiem, Kyrie, Deus Irae, Domine Jesu, Sanctus, Benedictus, Lux Eternae, Agnus Dei and Libera Me.

Mozart (1756–1791), Cherubini (1760–1842), Berlioz (1803–1869) and Verdi (1813–), have each composed a requiem of great beauty worth studying. This form belongs to the Roman Catholic Church; however, J. Brahms (1833–) has written a Protestant requiem to biblical text.

PART SIXTH.

INSTRUMENTATION.

Instrumentation is the art of assigning the various parts of a composition to the different instruments of an orchestra.

A knowledge of the particular tone-color, expression, power, compass and technical capabilities of each instrument is therefore indispensable.

Instrumentation is a comparatively modern art. While the old masters treated instruments from a mere contrapuntal standpoint, composers of the present century pay closer attention to the special tone-color of each instrument, and endeavor, by skillful combination of these, to produce what may be termed a tone-painting.

Probably the first instrument invented was the pipe. One can readily imagine how an idle shepherd might, either by accident or in order to imitate the human voice, blow through a simple reed and thus discover the principle of all wind instruments. The origin of stringed instruments is founded upon the ancient myth of a turtle shell with dried sinews, which the god Hermes accidentally struck with his foot, thus causing the sinews to vibrate and sound.

Among the wind instruments of the ancients may be mentioned the tibia, fistula, cornu, and lituus; among their principal stringed instruments, the lyre, psalterium, trigonium and epandoran.

Vocal music, without accompaniment of instruments, belongs to the fifteenth and sixteenth centuries, to Palestrina (1524–1594), his forerunners and successors. The seventeenth century introduced the figured bass, which was in use from the time of Carissimi (1582–1674) to Durante (1693–1755), and from the figured bass sprung instrumentation. The eighteenth century marks the development of instrumentation. The nineteenth century is progressing in this development, but it is left for future centuries to attain perfection. Since Beethoven (1770–1827) every instrument has been used which would serve to answer a desired purpose. At the present day the Italians use in their scores the fewest wind instruments, the Germans a great number, and the French, wind instruments to excess.

INSTRUMENTS.

Musical instruments, with exception of the human voice, are sonorous bodies artificially constructed for the production of musical tones.

They are divided into three families:

1. Stringed instruments.
2. Wind instruments.
3. Instruments of percussion.

The stringed instruments consist of the following three groups:

a. Violin; viola; violoncello; double-bass, whose tones are produced by friction of a bow upon the strings.

b. Harp, played with both hands; guitar, played with the right hand; mandolin, played with a plectrum which picks the strings.

c. Piano, played upon a key-board with both hands.

The wind instruments consist of the following four groups:

a. Wood instruments *without* reed: Flute, great and small; *with* reed: oboe; English horn; bassoon; clarinet; bass-clarinet.

b. Brass instruments: French horn; trumpet; cornet; trombone; tuba. Various other brass instruments exist in military bands, of which it is not our purpose to treat.

c. Pipe organ; reed organ or harmonium, both with key-board.

d. Voices of men, women and children.

The instruments of percussion consist of the following two groups:

a. Timpani or kettle drums; bells or chimes; all *with* definite tone.

b. Large and small drum; cymbals; triangle, gong; tambourine; all *without* definite tone.

STRINGED INSTRUMENTS.

VIOLIN.

All stringed instruments of the violin family are of a unique oval form, compressed in the middle, not unlike a violet, from which flower they probably got their name, as viola signifies in Italian a violet.

The antiquity of stringed instruments played with the bow has long been a subject of discussion among the learned; but it is generally accepted that such instruments were unknown to the ancients.

About the year 1650 the Amati brothers, and later Stradivarius, of Cremona, in Italy, constructed violins which are yet used and esteemed as of the greatest value. Since their time there has not been any perceptible improvement made in the structure of the violin. It was first introduced into concerts about two hundred years ago.

The violin consists of three main parts, the neck, finger-board and body. The bridge, which is below the two *f*-shaped apertures,* bears up four strings fastened to the bottom of the instrument and held at the neck by four screws, by which each string can be tightened and loosened at pleasure. The strings are made of catgut, lamb or goat skin, and the deepest string overspun with silver or copper wire. The bow is a rod strung with horse hair.

Music for the violin is written in the G clef; its four strings tuned as follows:

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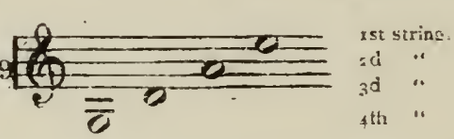

and has a range of three octaves and a half with chromatic intervals. A still higher reach of tones may be had by means of harmonics, hereafter described.

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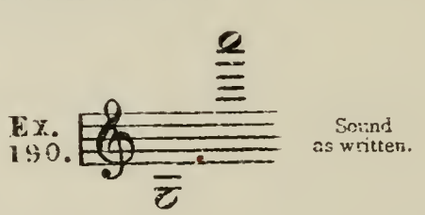
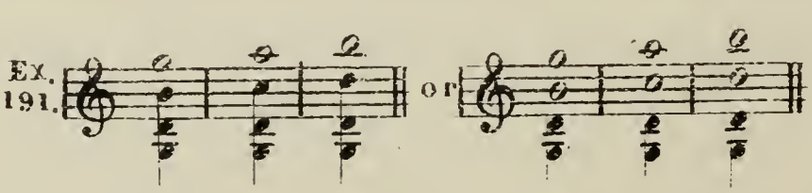


Chords of three and four notes, written to be played upon four strings in a bold manner, produce a good effect.

Ex. 191.



* An odd idea, which I have not seen elsewhere expressed, occurred to me in regard to the design adopted for the two apertures on top of the sounding-board of the violin. It struck me forcibly that the inventor, naturally desiring his instrument perfect in regard to a pianissimo and fortissimo tone, did not secure the latter to his entire satisfaction, and therefore carved a double *f* into the body as an ever visible warning to the player —ASGER HAMERIK.

In orchestral scores the violins are generally scored in two parts, 1st and 2d violin. If, however, the composer wishes further division of these two parts he employs the Italian word "*divisi.*"

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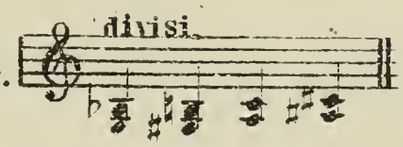

Consecutive 3ds, 4ths, 5ths, 6ths, 7ths and 8ths are, in moderate time, quite easy, but they become proportionately more difficult as they advance upon the higher strings.

The following example will demonstrate this :

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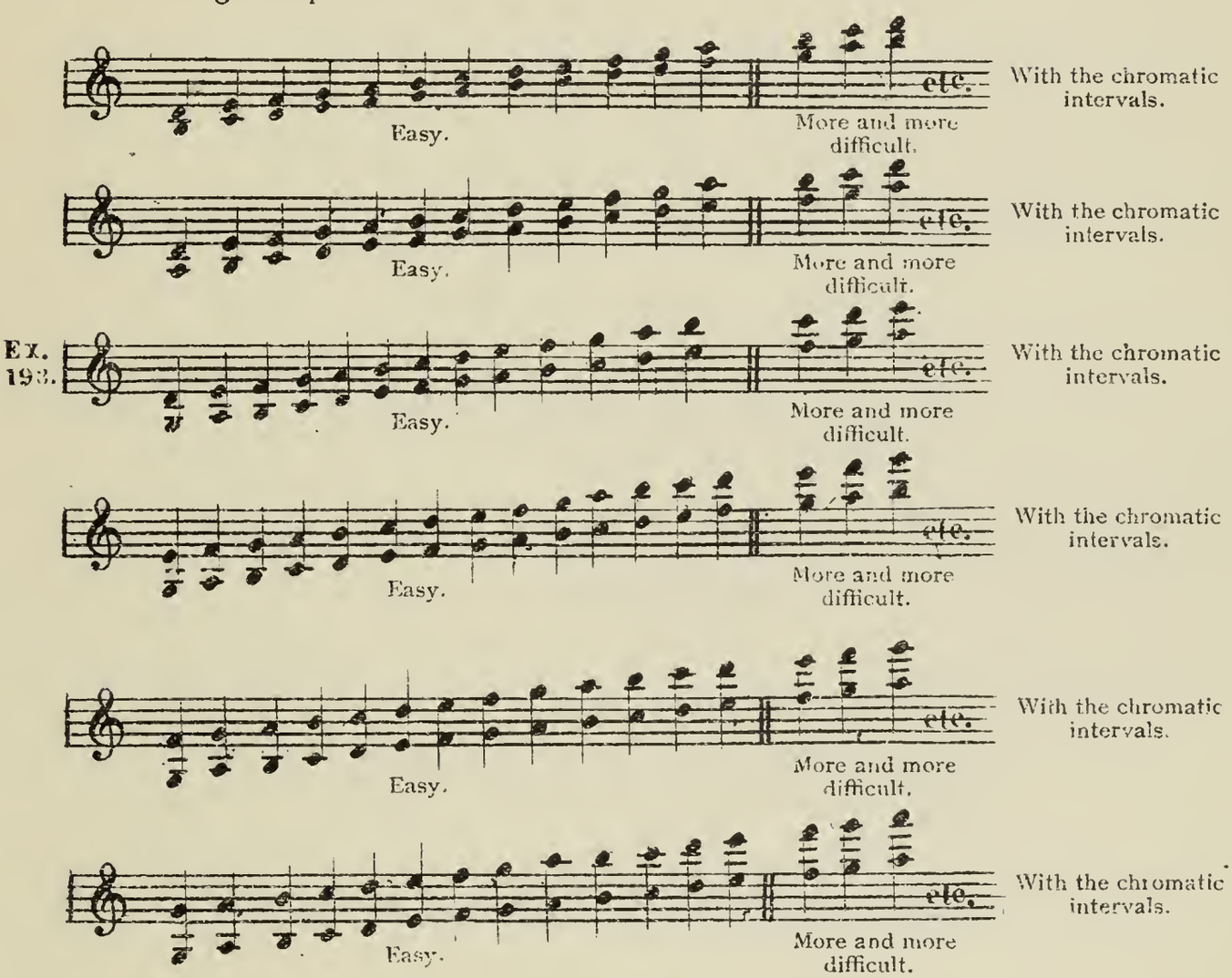
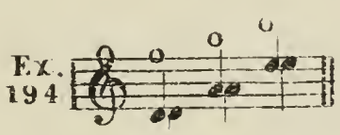


The unison is sometimes employed upon two strings, one of which must be open.

Ex. 194



A lower string can cross an open upper string by pursuing an ascending motion, while the open string serves as a pedal note.

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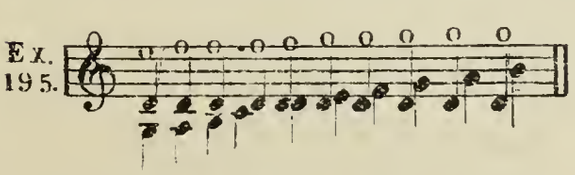

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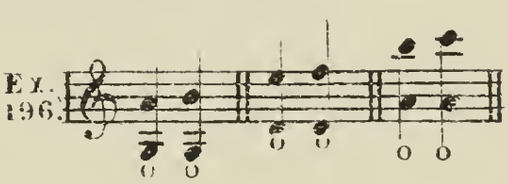

Arpeggios are agreeable in soft passages, and comparatively easy.

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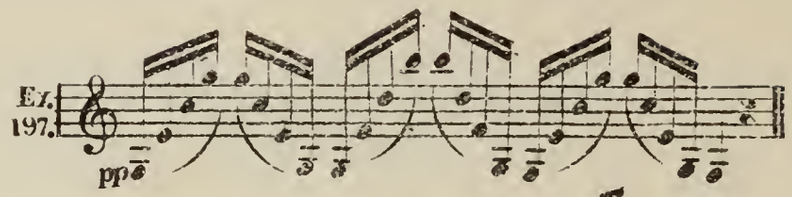
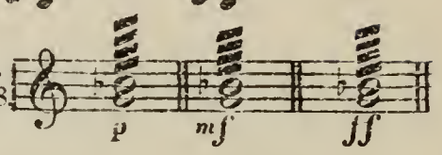


The tremolo, both single and double, produces an excellent effect.

Ex. 198.



If performed fortissimo the bow should be used as near the bridge as possible.

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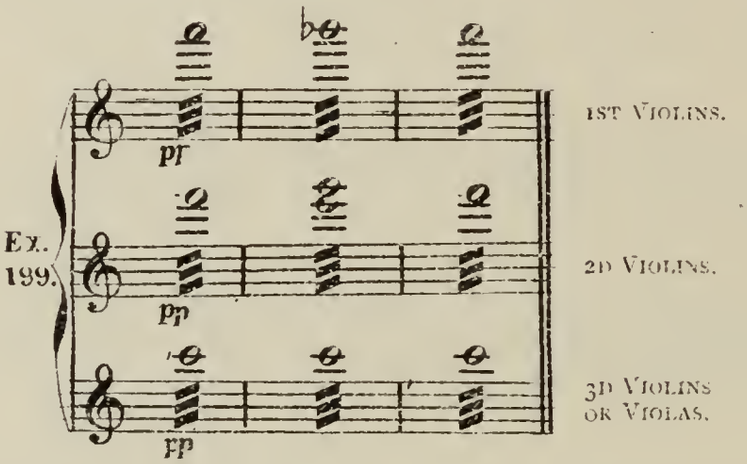
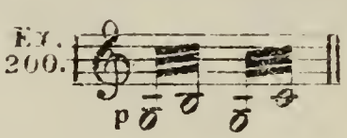


Advantageous use is also made of the broken tremolo upon one string.

Ex. 200.



There are many different kinds of bowing, as will be seen by the following examples:

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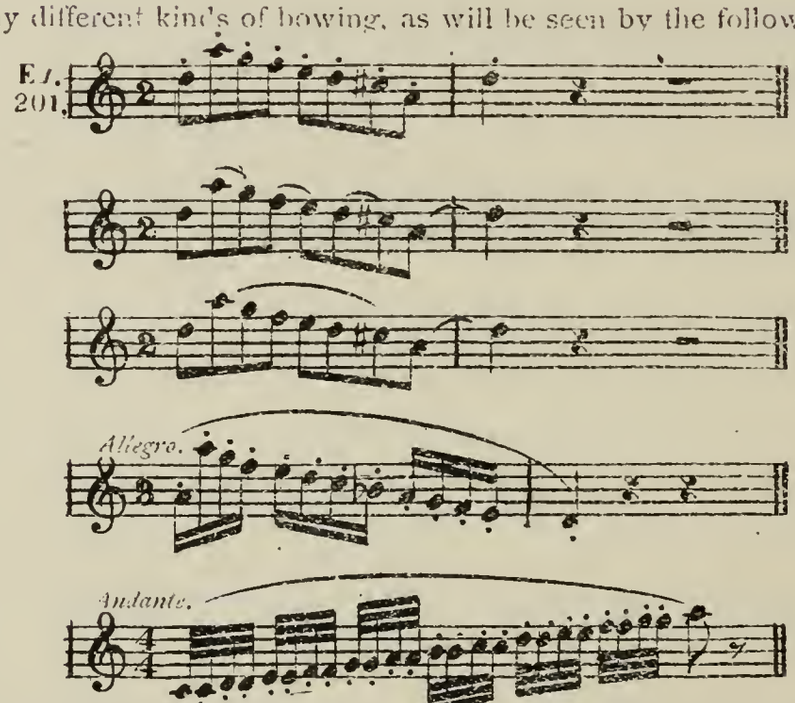
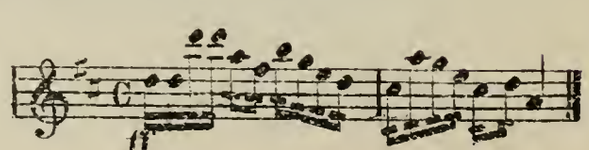


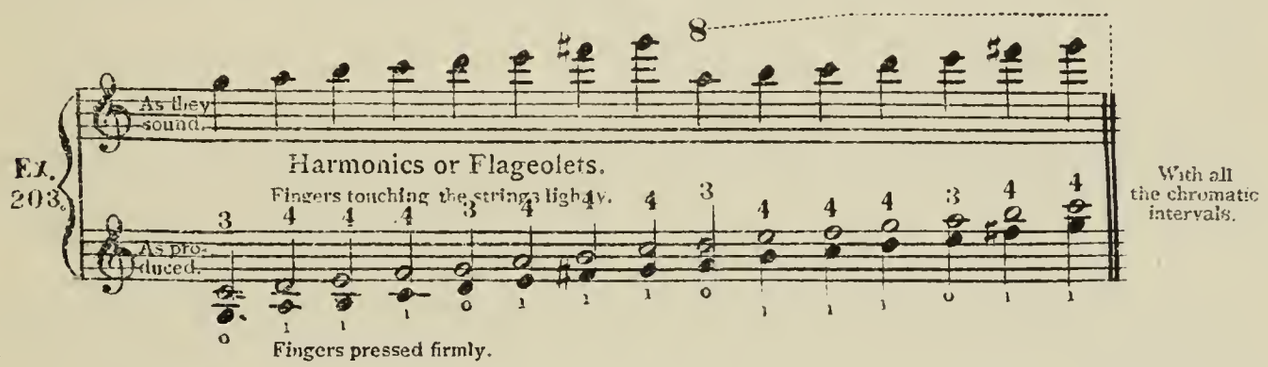
A phrase of broad movement and vigorous character produces a better effect thus:

Ex. 202.

This in contrast to this



Harmonics are tones produced by lightly touching the strings with the fingers, but without sufficient pressure to bring them in contact with the finger-board. They possess a singularly mysterious softness, and the extreme acuteness of some of them affords all strings an immense compass in the upper part. They can be either natural or artificial. The *natural* harmonics are those which are produced by touching certain points of open strings; the *artificial* harmonics are obtained by pressing firmly the first finger upon the string, while the fourth finger touches it lightly, serving as a movable nut. By this means tones are produced sounding two octaves above the notes actually played. It must be understood that these harmonics are best adapted for long, sustained tones, and the only ones practicable in an orchestra are the artificial harmonics of the 4th.



Ex. 204. ∨ Up bow. ⊓ Down bow

Composers should also indicate in their scores the movement of the bow. A multitude of players bowing alike always produces a highly satisfactory result.

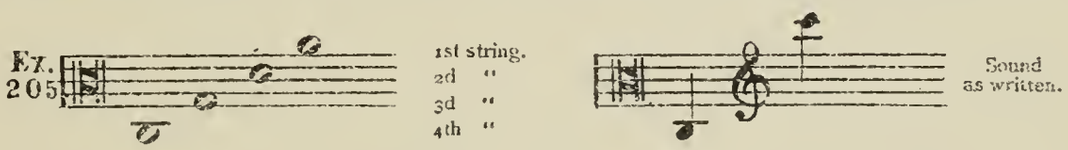
The *pizzicato* is obtained by picking the strings with the finger, and when performed by the combined strings it produces somewhat of a harp effect. The return to bowing is indicated by the Italian word *arco.* With the old Italian composers we frequently find the expression *sul ponticello,* indicating the use of the bow near the bridge in piano tremolos. If there is anything grotesque to be expressed, the back of the bow—or wooden part—may be employed in striking the strings, which is called *col legno. Sordino*—Italian for mute—is a small wooden or brass implement which is placed on the bridge in order to deaden the sonorousness. It produces a mournful, mysterious, soft and veiled tone. When intended to be employed the composer writes *con sordino*; when omitted, *senza sordino.*

Stringed instruments are easiest to play in keys which leave them the use of the open strings; the sharp keys are the best, being sonorous, brilliant and joyous, whereas the flat keys are vague, dull and veiled.

Hector Berlioz (1803–1869) says, masses of violins in an orchestra possess force, lightness, grace, thought and passion. They are sure never to be out of breath, faithful, intelligent, active and indefatigable. They are the true female voices of the orchestra, at once passionate and chaste, heart-rending and soft, yet can weep, sigh and lament, chant, pray and muse, or burst forth into joyous accents.

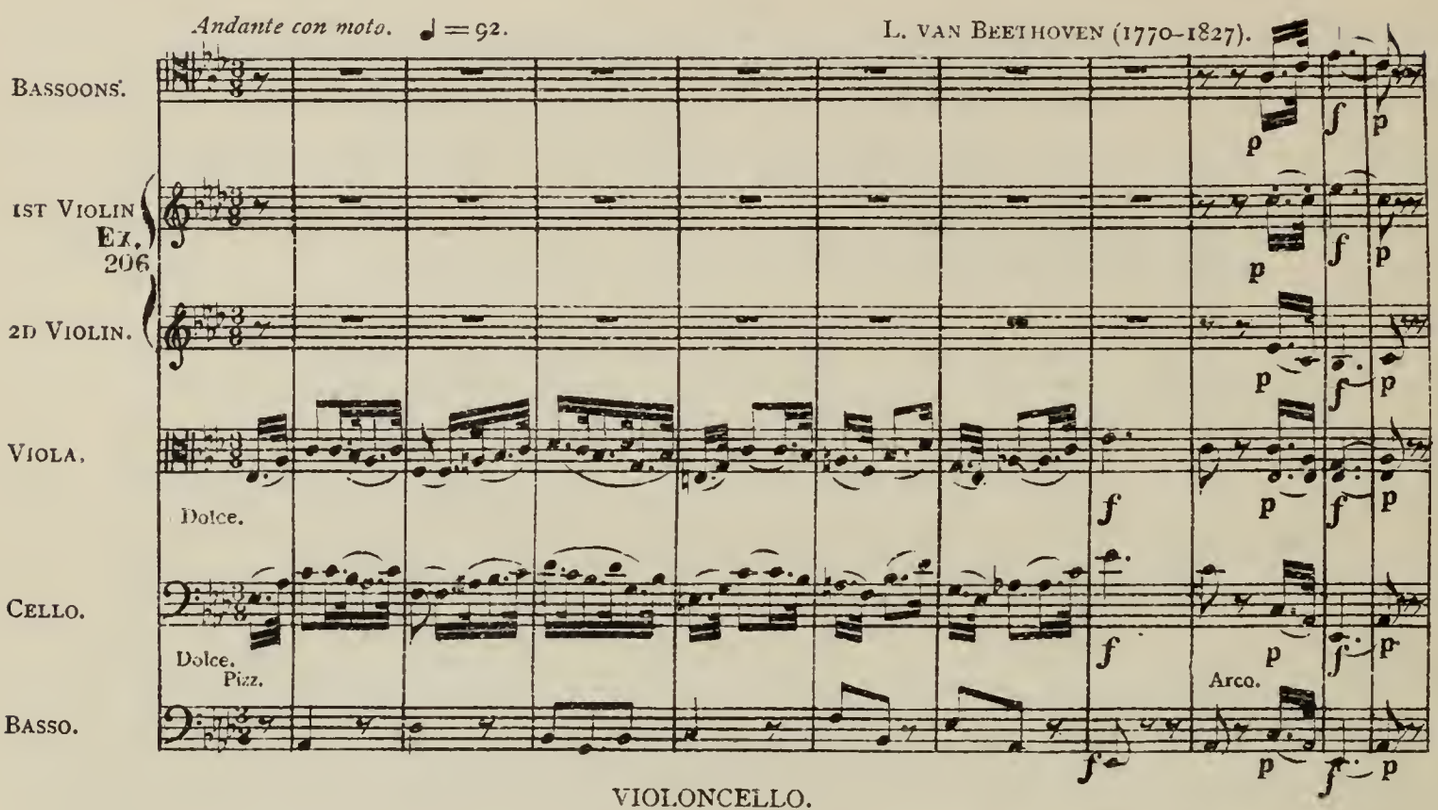
VIOLA.

The viola, French alto or English tenor violin, is an instrument similar in formation to the violin, but of somewhat greater dimensions; its compass is a 5th lower, and extends over three octaves.



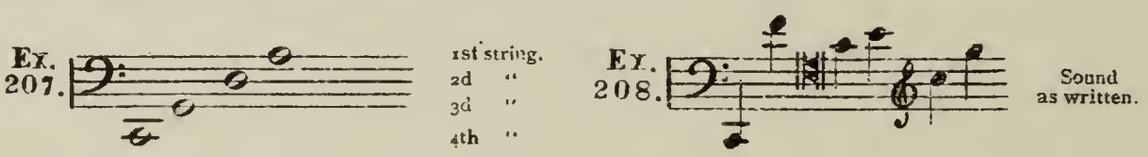
It is written in the alto clef, but if the notes run so high as to be difficult to read, the G clef can then be used. The tones of its strings are peculiarly telling, of a profoundly melancholic character, and its upper notes distinguished by their mournful passion. It is but lately that the viola has been brought into prominence in the orchestra. The technique of the instrument, as well as its production of harmonics, follows the same rule as the violin. When the violoncellos play a melodious phrase on the second string, it is sometimes advisable to let the violas play in unison with them.

EXAMPLE OF VIOLONCELLOS AND VIOLAS PLAYING MELODY IN UNISON; FROM THE SYMPHONY IN C MINOR.



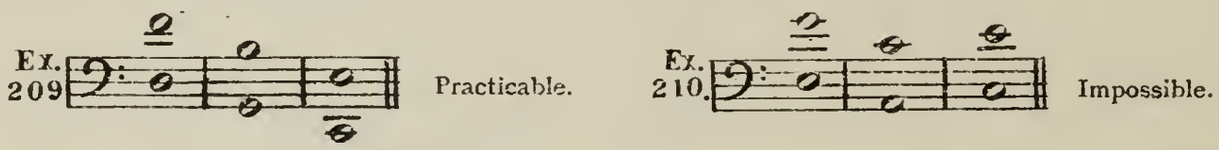
VIOLONCELLO.

The violoncello, or bass violin, is of the same shape as the violin, but much larger. It is tuned in 5ths, its compass an octave lower than the viola, and its range three octaves and a half. It is

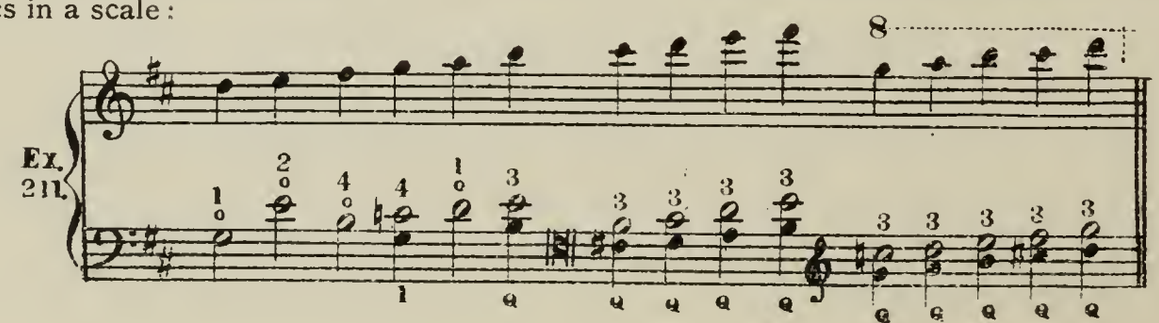


written in the F clef, but if the notes go too high, the tenor—and sometimes the G clef are used; however, it should always be borne in mind that whenever the G clef is used the notes are to be performed as written, and not an octave lower.

All that has been said about the violin relative to arpeggios, open strings, bowing and harmonics, applies equally well to the violoncello. However, the violoncello strings being longer than those of the violin, demand a correspondingly wider extension of the fingers, whence it follows that passages of 10ths on double strings are impracticable, and that even an isolated 10th cannot be played unless the lower note be an open string.



Hector Berlioz (1803–1869) has in his treatise on Instrumentation the following example of harmonics in a scale:

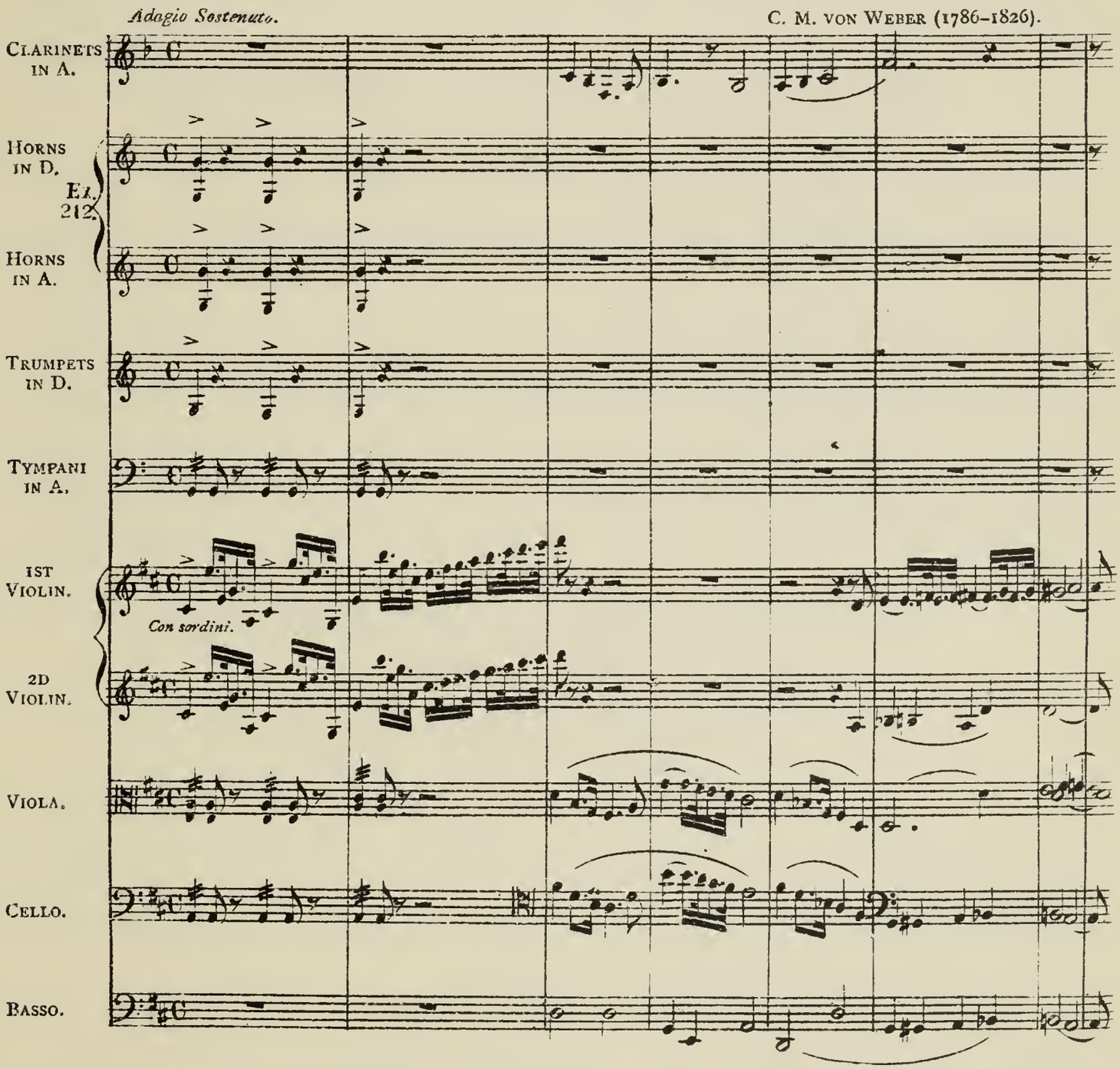


In the orchestra the part of the bass is taken by the violoncello. Its higher strings may be used to advantage for melodious phrases, but if thus employed, the result will be a considerable weakening in sonority of the fundamental notes of the harmony; the double-basses, thus forsaken by the violoncellos, become dull, extremely heavy and ill connected with the upper parts, which are held at too great distance.

When required to produce a very soft harmony of stringed instruments, it is well, on the other hand, to give the bass part to the violoncellos and omit the double-basses.

If a subject be composed in two parts for viola and violoncello, the viola should invariably take the lower part and the violoncello the higher, on account of the superior sonorousness of the latter's tones.

EXAMPLE OF VIOLONCELLOS PLAYING THE SUBJECT ABOVE THE VIOLAS; FROM THE OVERTURE TO THE OPERA OBERON.

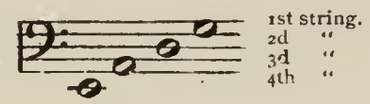


DOUBLE-BASS.

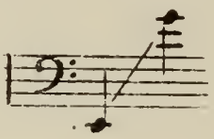
The double-bass—in Italian *contrabasso*—is a large, deep-toned, stringed instrument, in fact the deepest and most powerful instrument of the stringed family, and may be considered as the pillar of the entire orchestra.

Written in the F clef, the four open strings of the double-bass are :

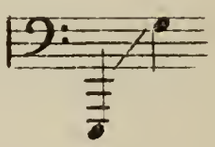
Ex 213



The compass.



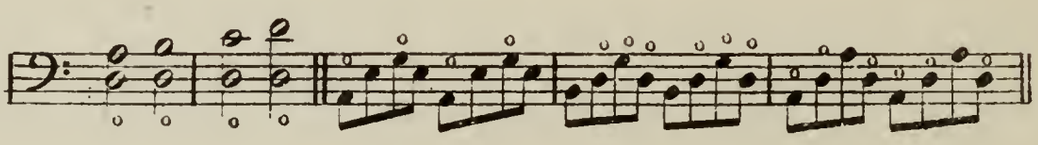
Sounds.



As seen, it is tuned in 4ths, and the actual pitch of the notes is an octave lower than written.

Arpeggios may be used on the double-bass, giving them two or three notes, of which only one should be fingered, the remainder open strings.

Ex. 214.

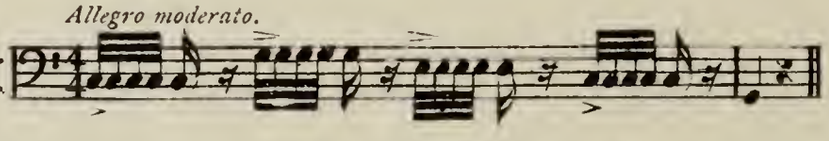


Harmonics on the open strings can be easily produced, but owing to the extreme length and tension of the strings, artificial harmonics can not.

An intermittent tremolo may readily be obtained, thanks to the elasticity of the bow, which causes it to rebound several times on the string, when a single blow is somewhat sharply struck.

Allegro moderato.

Ex. 215.

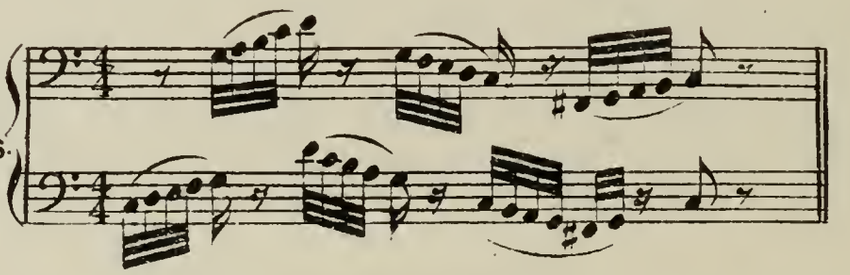


A continuous tremolo produces an excellent effect, and gives a most menacing aspect to the orchestra, but if lasting very long is extremely fatiguing to the performer. Quick passages, as a general rule, produce a clumsy effect. Hector Berlioz gives the following example, showing how a rapid passage may be written by dividing the instruments.

1ST DOUBLE-BASS.

Ex. 216.

2D DOUBLE-BASS.



It is the faculty of any deep-toned instrument to move in a slow, majestic way, the vibrations demanding it ; therefore the composer must treat them accordingly, as the performer, even though a virtuoso, cannot go against nature.

In the storm of Beethoven's (1770–1827) Pastoral Symphony, there are passages which cannot be executed upon the present double-bass tuned in 4ths.

The pizzicato, loud or soft, is of good sonority. Sordinos employed upon double-basses produce no marked change of tone.

In the symphonies of the old masters the double-bass is generally written in unison and upon the same staff as the violoncellos, but from Beethoven (1770–1827) to the present time there has been a tendency to emancipate the double-bass, and it is well always to give it a staff of its own.

HARP.

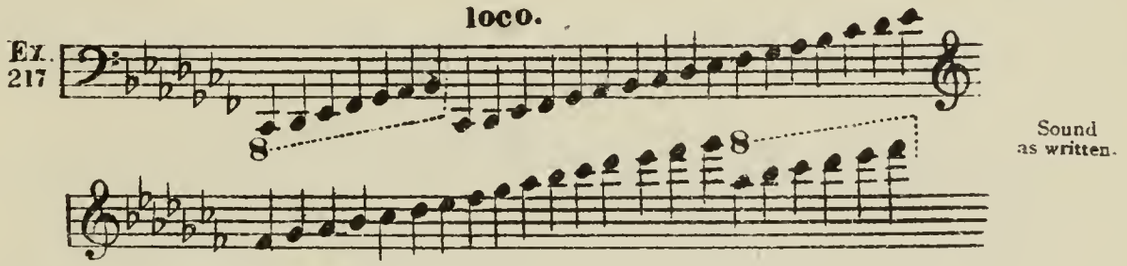
The harp is an ancient stringed instrument, consisting of a perpendicular triangular frame, about six feet in height, upon which strings are stretched, diminishing in length as they ascend in pitch.

Upon a smaller scale, designs of this instrument were found on the Egyptian monuments and the Theban bas-reliefs. Not less antique were the harps used by the Icelandic, Welsh and Irish Bards; these, in contrast to the above named, had three rows of strings, of which the middle row furnished the chromatic scale. The national importance of this instrument is yet shown by the Irish flag, which is a green bunting bearing a golden harp.

The harp used in orchestras previous to 1720 was tuned in the diatonic scale of E flat major without chromatic intervals, the tonic indicated by a scarlet string, and the subdominant by a navy blue or black string. Compositions for this harp had therefore to be very limited as to keys.

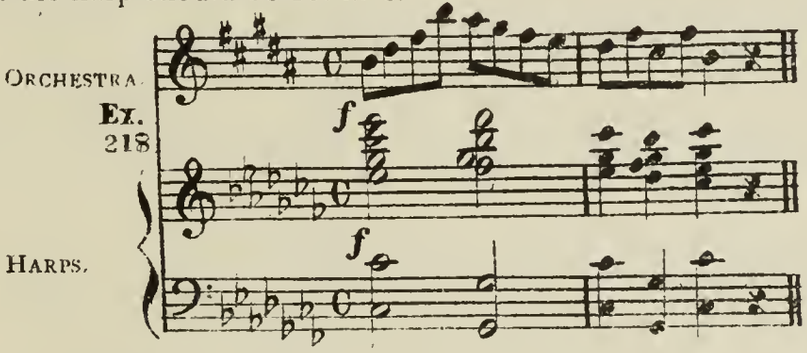
In 1720 the pedals were invented, and in 1820 improved by Erard of Paris, who increased their number to seven.

The double-action harp of the present day is tuned in the diatonic scale of C flat major without chromatic intervals. It has a range of more than six octaves and is written in the G clef for the right hand, and F clef for the left.



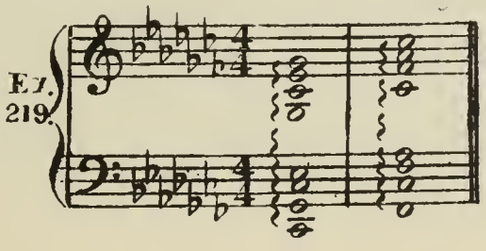
The seven pedals with which it is furnished enable the player to raise each string—at option—either a semitone or a full tone. By taking in succession the seven semitone pedals, the harp in C♭ can therefore be set in the keys of G♭, D♭, A♭, E♭, B♭, F♮ or C♮. Still further raising the strings another semitone by means of the second action of the pedals, the seven notes of the C♮ major scale will become sharpened, when the tones produced will be F♯, C♯, G♯, D♯, A♯, E♯, and B♯—which enables the harp to play in the keys of G, D, E, B, F♯ and C♯.

The scale of C♭ is different from the scale of B major, which latter is produced by means of the double action of the pedals; it will therefore be better for the sonority of the instrument, if the orchestra plays in B major, that the harp should be set in C♭



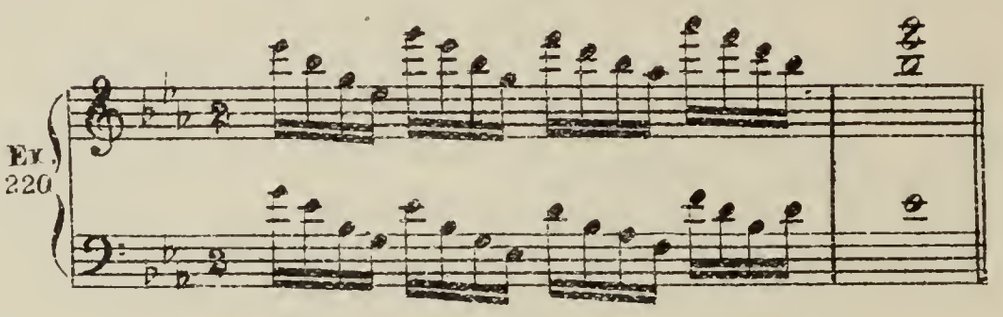
In order to prepare the player for change of key, composers should make use of the following words, placed a few bars before the change—Prepare the key of C♯, prepare the key of C♮ etc.

Unlike the piano, where the broad keys prevent the performer stretching with ease more than an octave, the harp—by its strings being close together—allows the player to stretch 10ths with facility, thus:



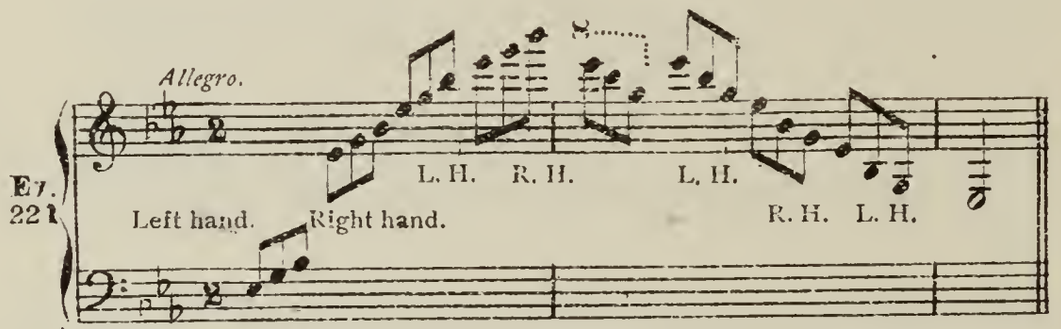
The successive execution of harmonic passages, either ascending or descending, is perfectly in the character of the harp; it is even after its Italian name Arpa that these passages are called arpeggios.

Ex. 220.



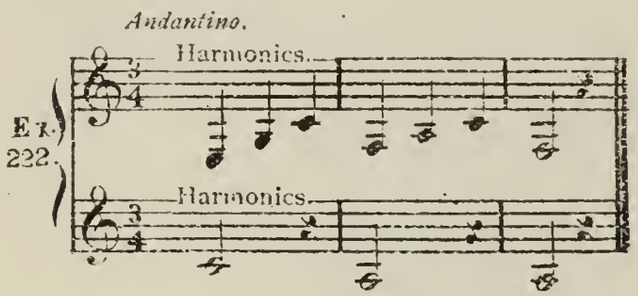
However, care should be taken not to write the parts for the two hands nearer than a 6th, as otherwise they will interfere with each other. The arpeggios in 10ths are the best. The following example gives an idea how arpeggios should be performed, by using the two hands alternately:

Ex. 221.

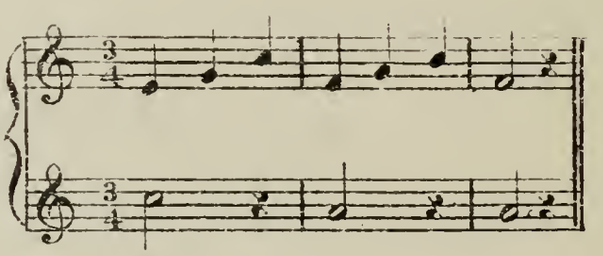


If this example should be played in octaves it would only be practicable when played slowly. The harmonics on the harp are produced by touching the centre of the string with the palm of the hand while playing with the thumb and first two fingers of the same hand—this produces the octave above.

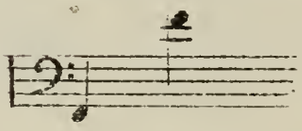
Ex. 222.



Effect.

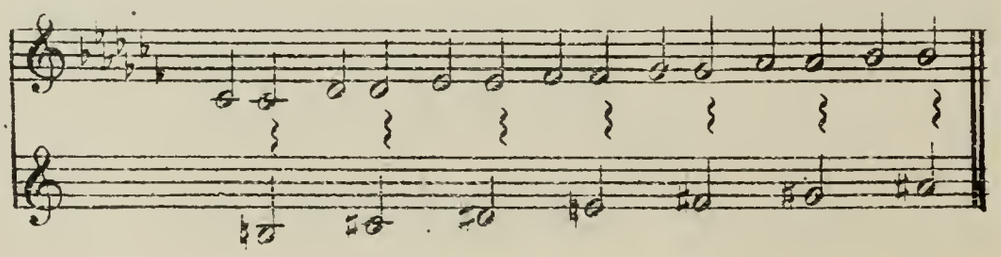


The compass of full and rich harmonics is Ex. 223.

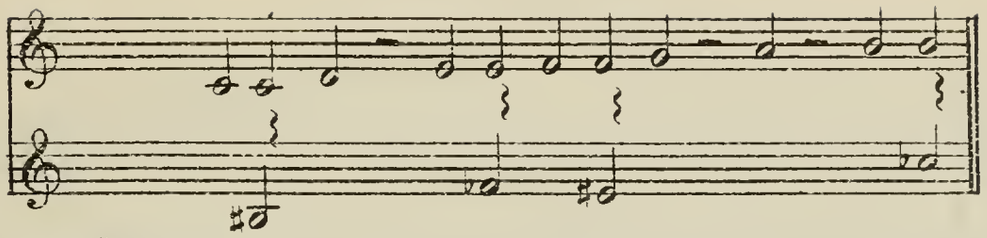


In modern harp compositions, glissandos are introduced by a certain combination of the pedals. On the double-action harp the effects depend upon the enharmonic relation of two strings lying next to each other.

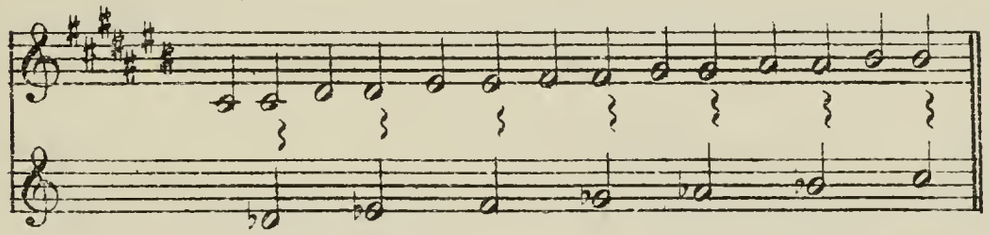
C♭ Major. Ex. 224.



C Major.

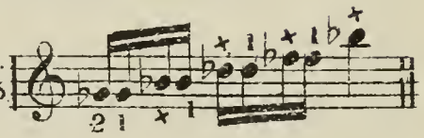


C♯ Major.



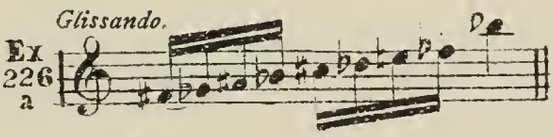
On account of the possibility of bringing two strings to one and the same pitch, many effective passages may be performed upon the double-action harp. If, for instance, the following passage be played as it is really written,

Ex. 225.



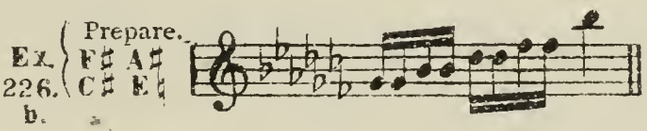
with the best possible execution it is imperfect, in comparison with the far easier method, thus:

Ex. 226. a



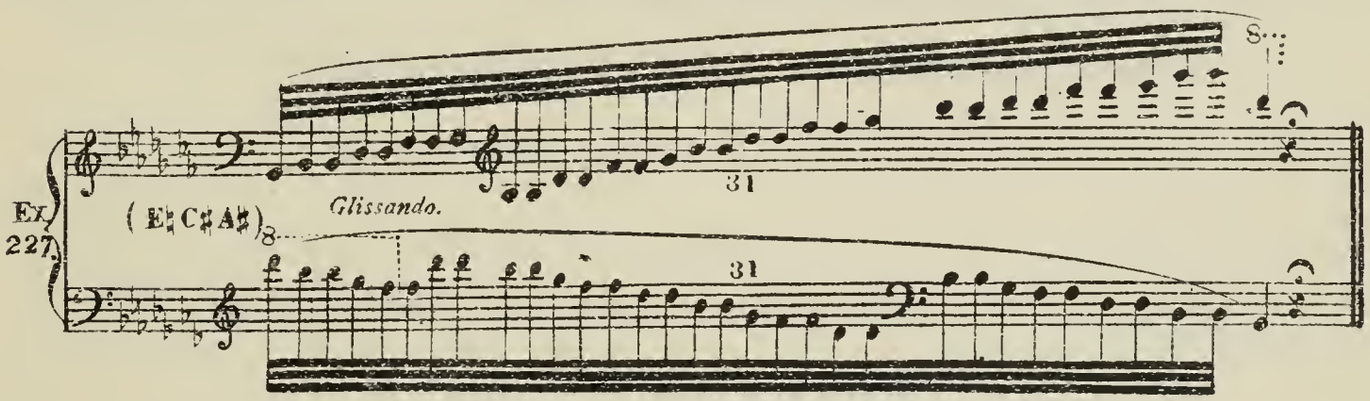
Such passages must be written with the signatures of the key in which they occur; therefore, the preceding passage (Example *226a*) should be marked by the composer, thus:

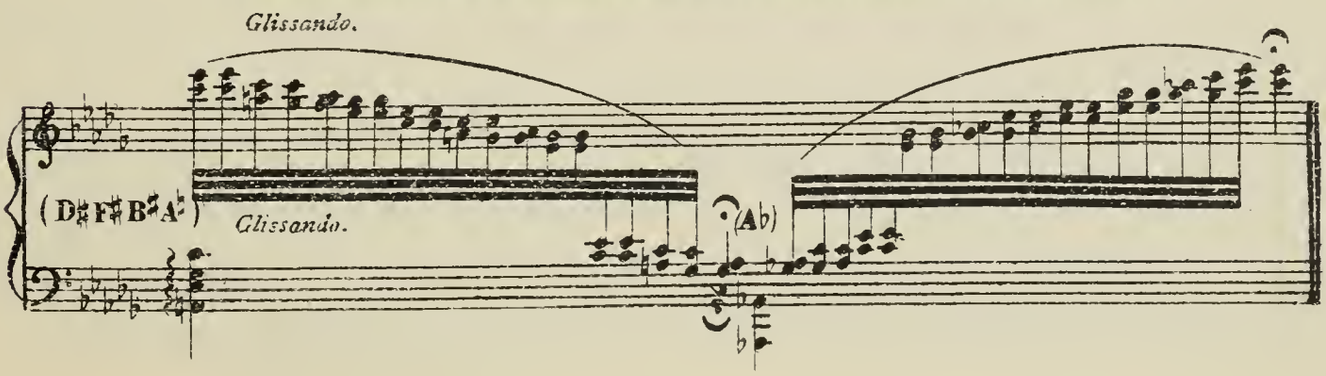
Ex. 226. b.

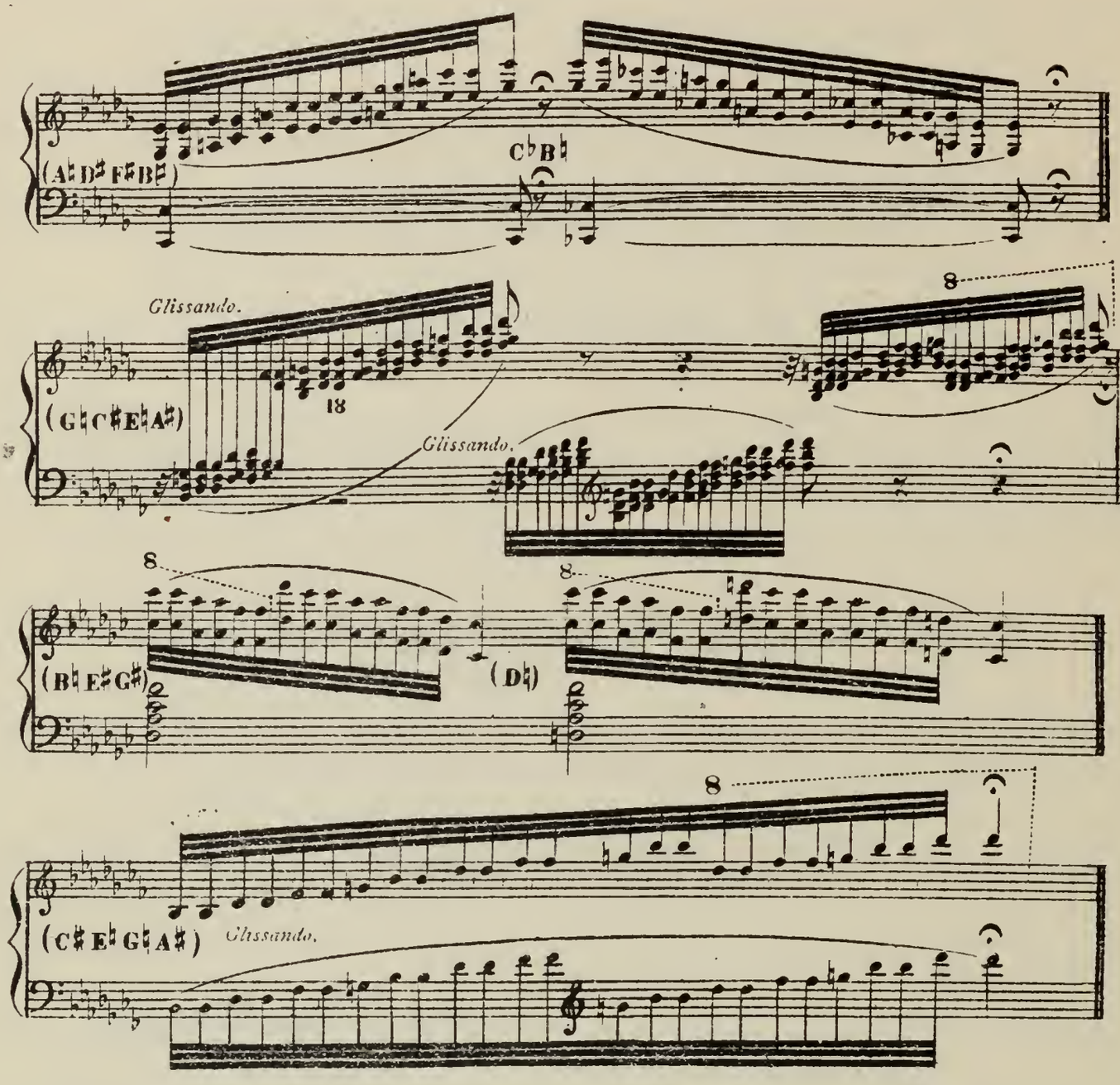


But even these marks are sometimes dispensed with, presuming that the performer does not require them. The following are fine examples of glissandos.

Ex. 227.







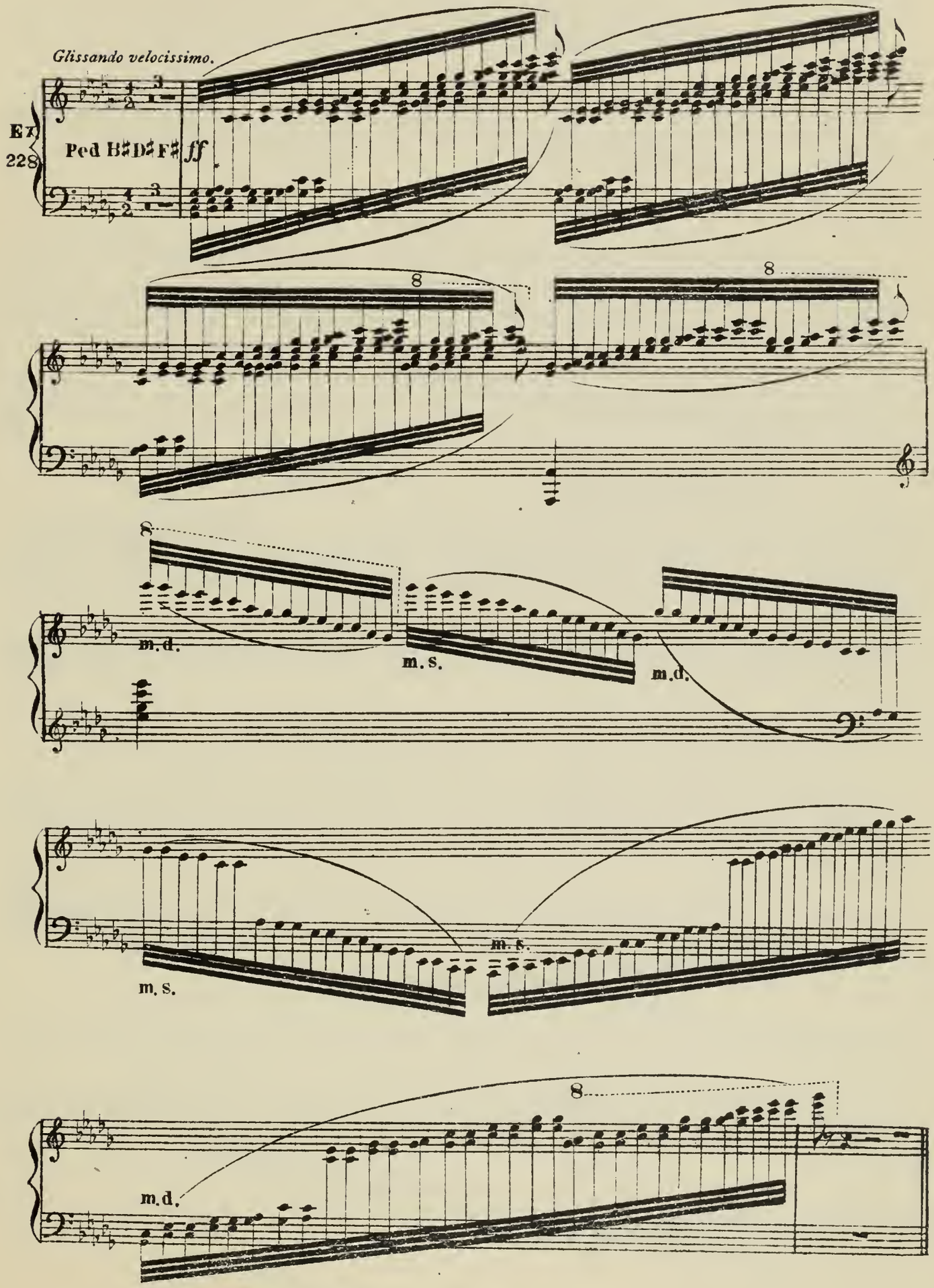
Glissandos of chords are more sonorous when they proceed upwards from the bass; when written from the treble downwards, single notes sound the best.

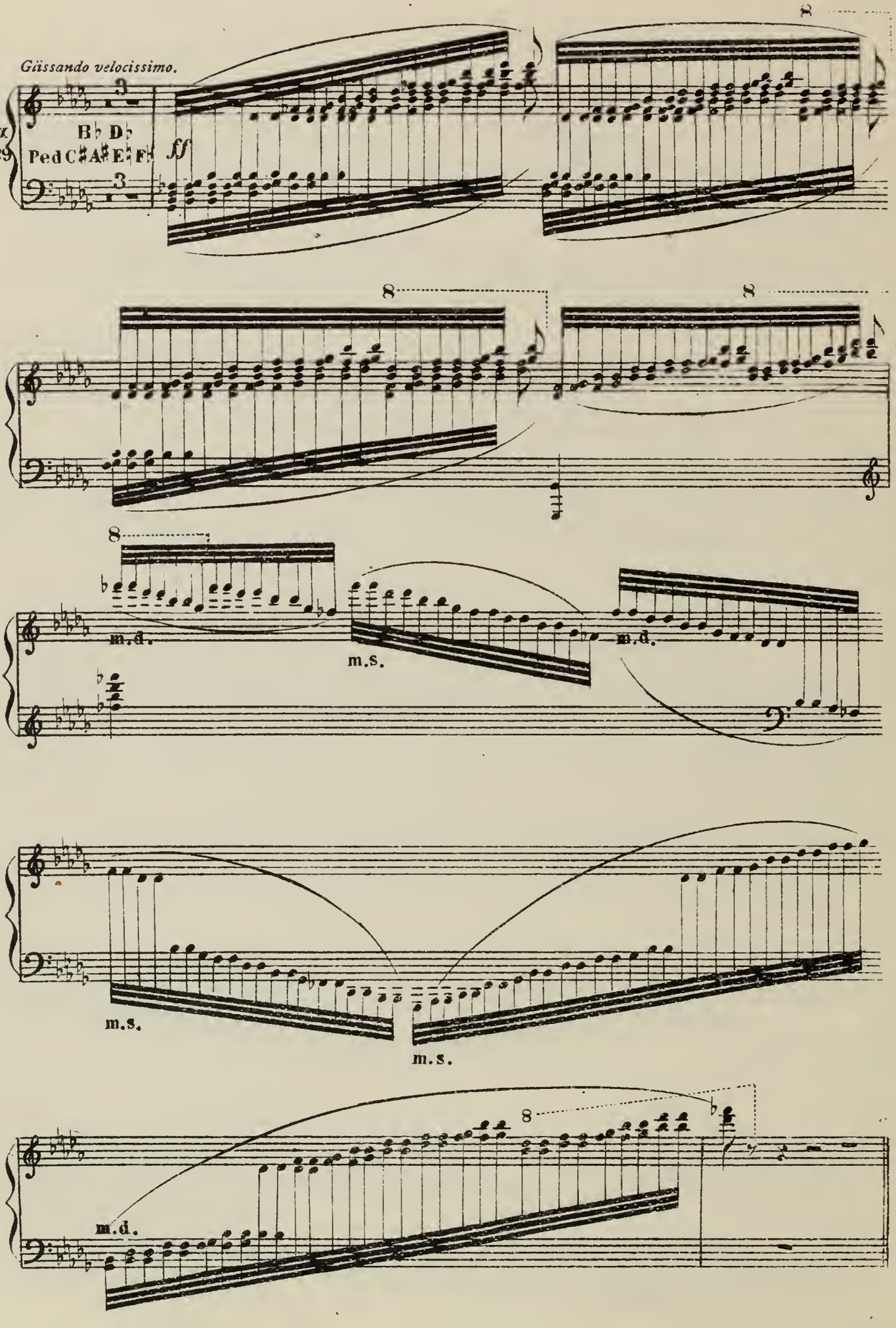
The effect of harps in an orchestra is of extreme splendor, and nothing can be more appropriate with the idea of poetic festivity or religious rites than the tones of a large number of harps. In the orchestra of the Grand Opera in Paris, there are twelve harps. A single harp is of course feeble, and in an orchestra of even moderate size, there should be at least two harps for the same part. The harp mingles best with brass instruments, as horns and trombones. The difference in the quality of tone of the pizzicato of the violin family prevents it from mingling well with the harp.

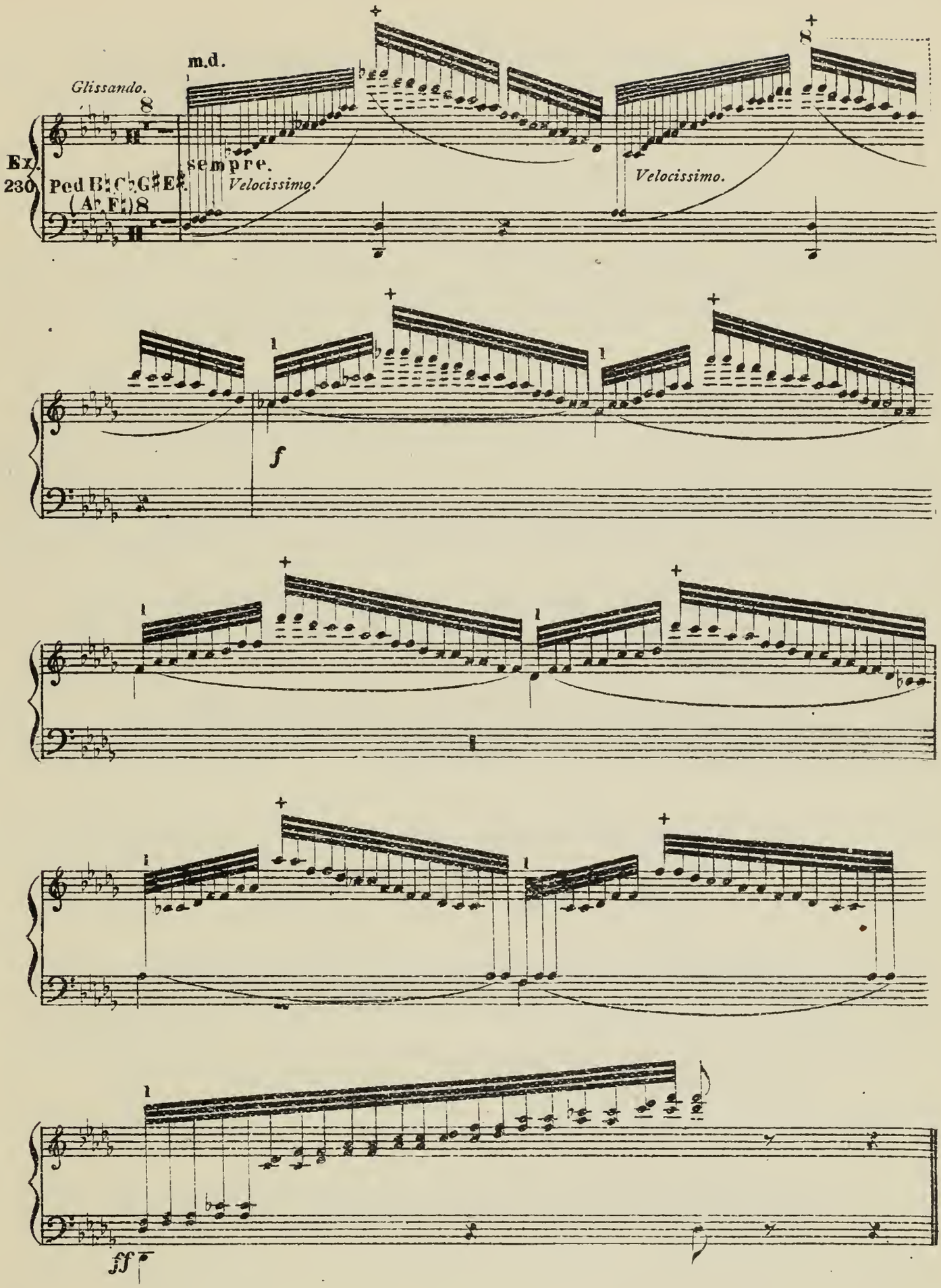
The reason why the harp is not used to a greater extent by composers lies in the difficulty of keeping the instrument in perfect tune, on account of its exposure to an uneven temperature, caused by its perpendicular position, which makes the strings liable to break. Harp players prevent this breakage by letting the strings down when not in use; to do this it becomes necessary to loosen the screws, and this is another drawback to having the harp in good tune. A thousand years ago it was the duty of every Welsh gentlemen to play the harp, and a virtue to keep it in perfect tune.

EXAMPLE OF GLISSANDO FOR HARP—FROM THE CHRISTIAN TRILOGY.

ASGER HAMERIK (1843-).



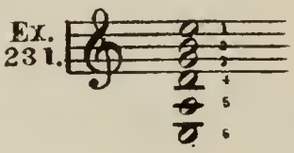

Glissando velocissimo.
Ex 229
B♭ D♭
Ped C♯ A♯ E♭ F♭
ff
8
m.d.
m.s.
m.d.
m.s.
m.s.
8
m.d.


m.d.
Glissando.
8
Ex.
230
Ped B♭ C♭ G♯ E♯
(A♭ F♭)8
sempre.
Velocissimo.
Velocissimo.
f
ff

GUITAR.

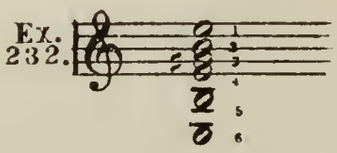
The guitar is a stringed instrument somewhat of the form of a large viola, with six strings extending in parallel lines from its head to its lower end. These strings are tuned in 4ths, with the exception of the third one, which is tuned a 3d below the second one. It is written in the G clef.

Ex. 231.



However, the guitar is often found to be tuned in the following manner for compositions written in several sharps.

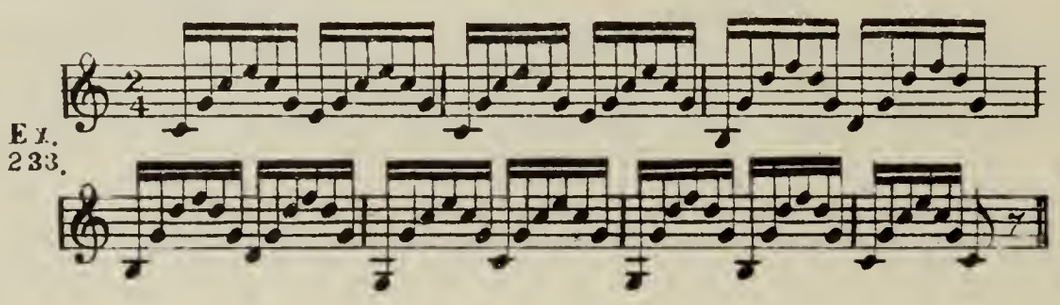
Ex. 232.



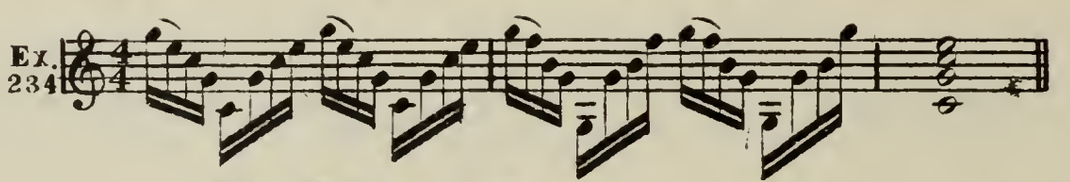
The three lower strings are of silk covered with silver wire, the other three of catgut. The guitar is a transposing instrument of more than three octaves, and written one octave above the real tone. The sharp keys are the most suitable.

The following examples are taken from Hector Berlioz, who was an accomplished performer upon the guitar, that being the only instrument upon which he could play.

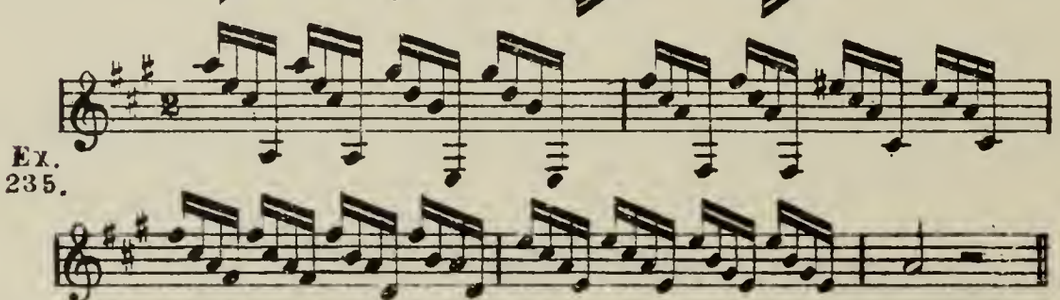
Ex. 233.



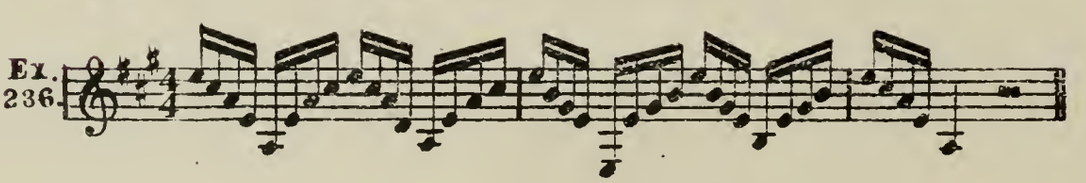
Ex. 234.

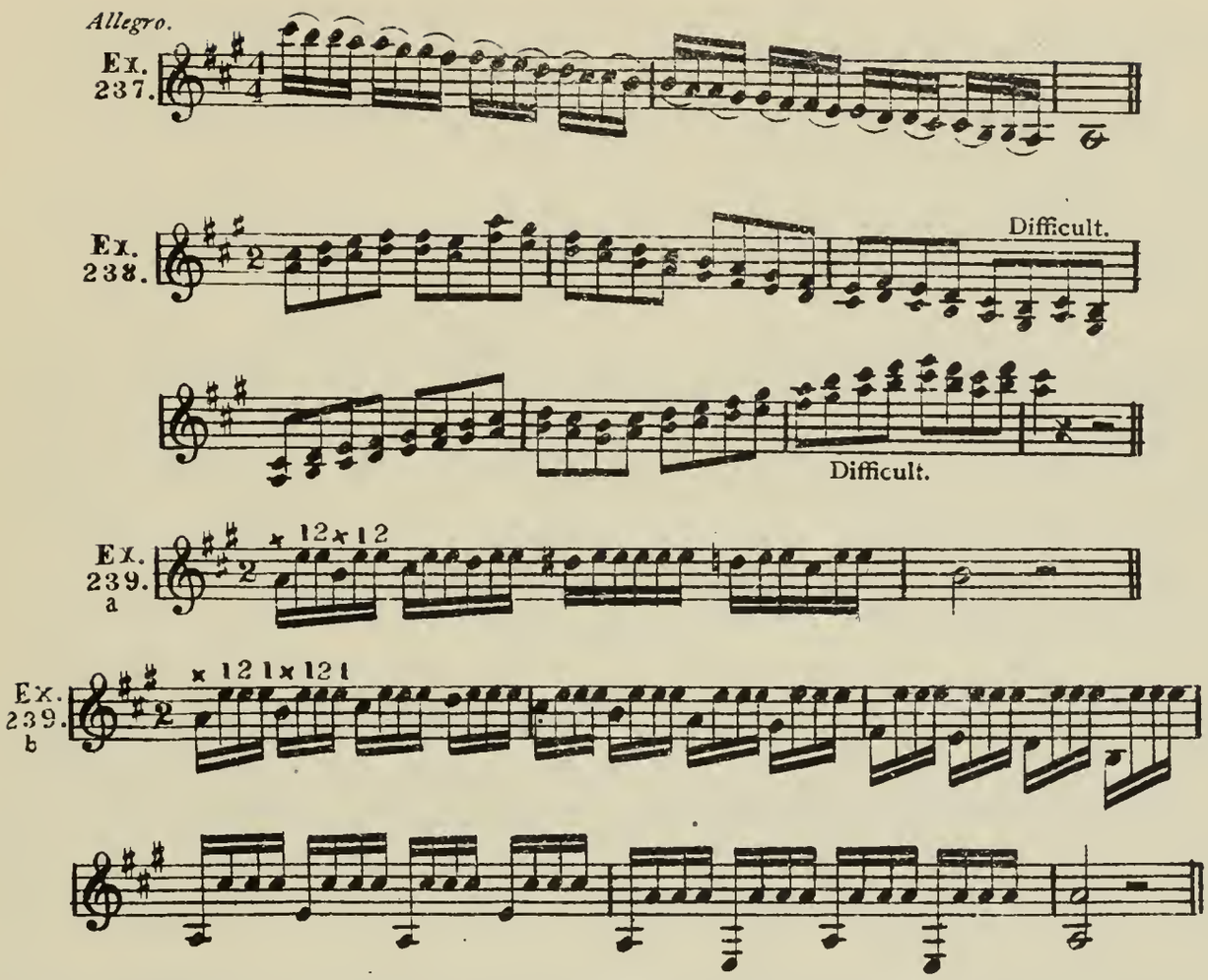


Ex. 235.



Ex. 236.



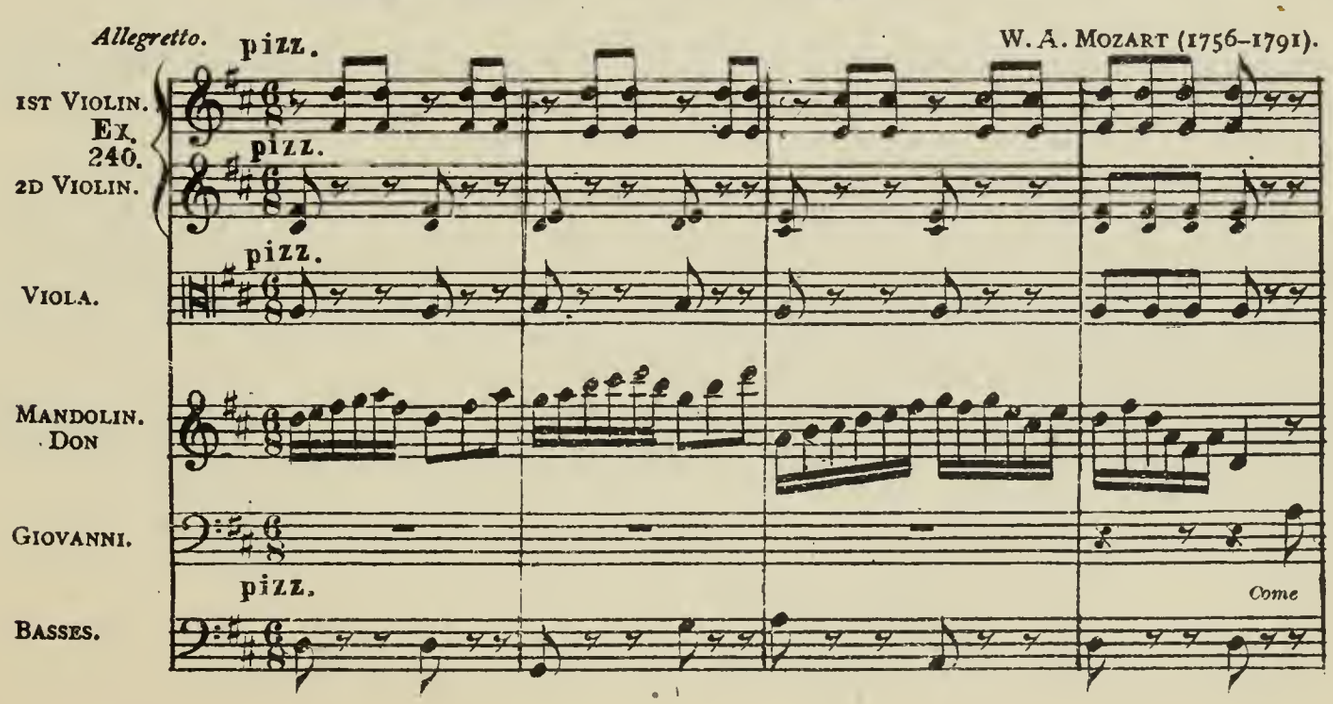


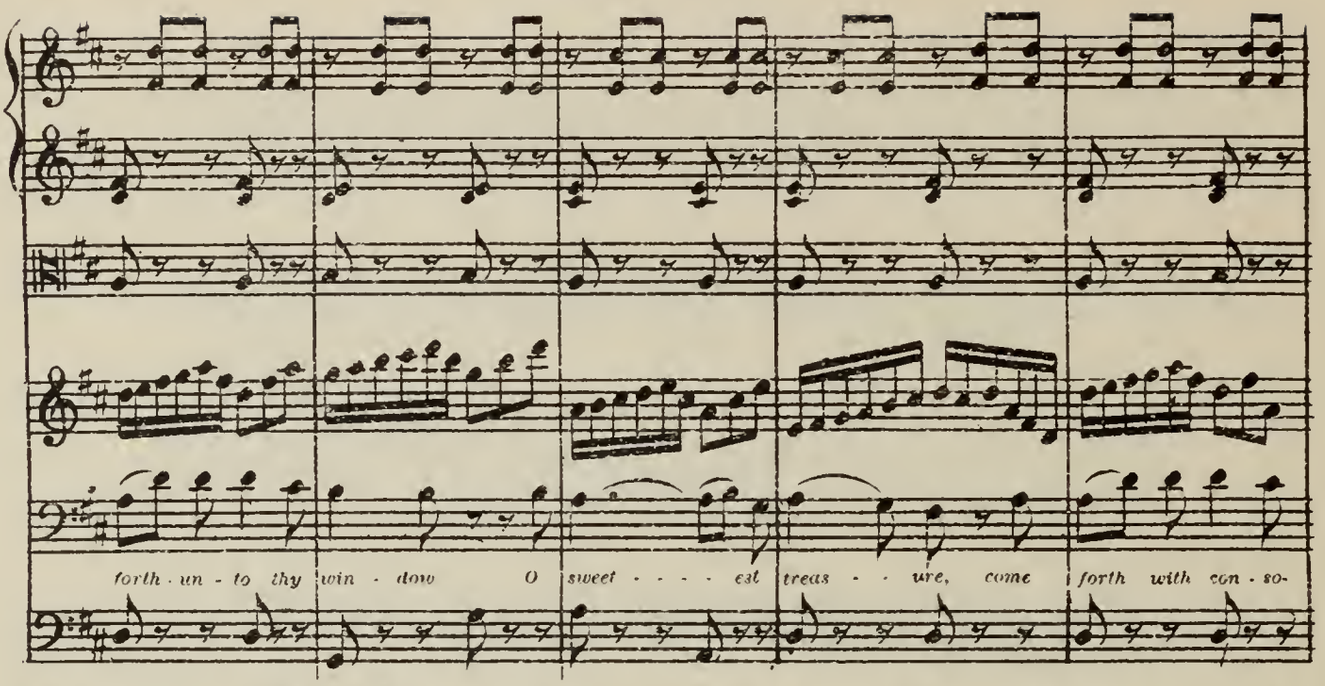
It is an instrument suitable for accompanying a single voice, but is seldom used in union with many voices on account of its lack of sonority; it may, however, be introduced as a solo instrument.

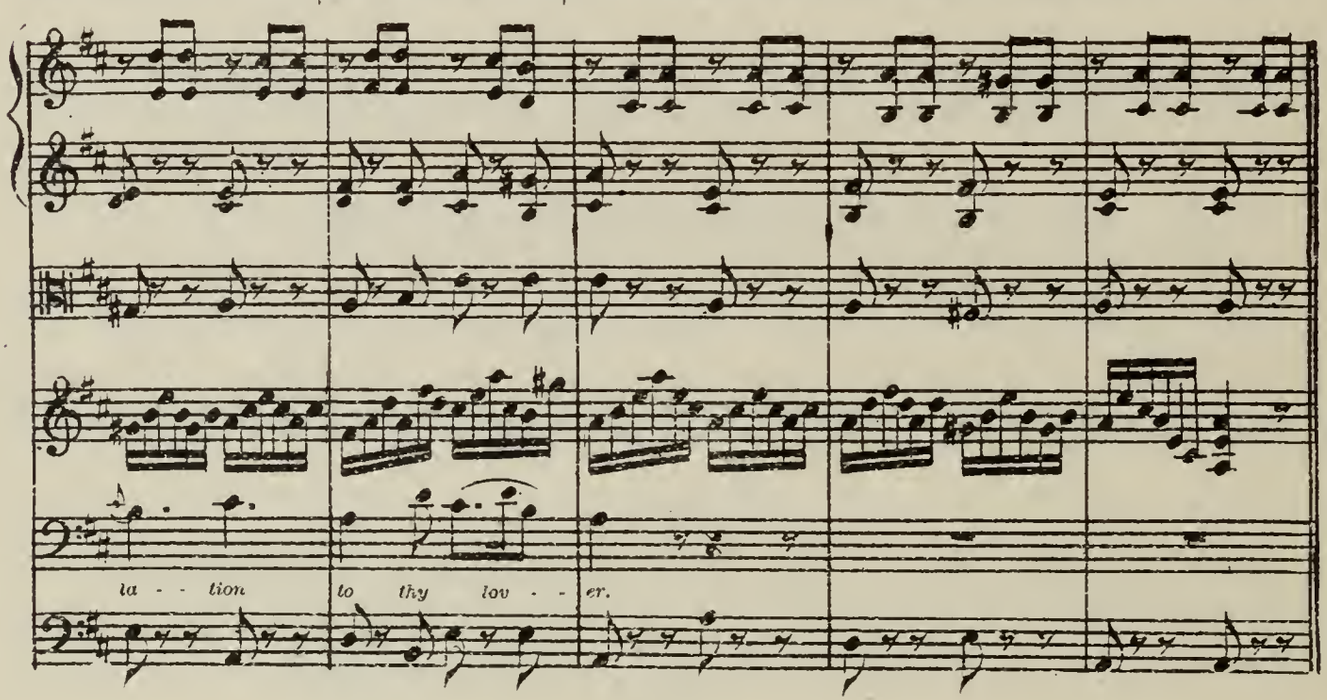
MANDOLIN.

The mandolin, with its unique, egg-shaped body, has fallen into disuse in the orchestra. Mozart has employed it as follows:

EXAMPLE OF MANDOLIN SOLO—FROM THE OPERA DON GIOVANNI.







PIANO.

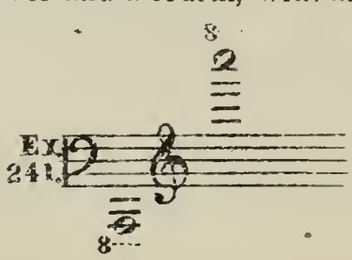
The origin of the piano is traceable to an instrument called psalterium, or dulcimer, a wooden case across which metallic strings fastened by iron pins were stretched. The performer held in the hand a small wooden hammer with which the strings were struck.

The clavichord was an improvement upon the dulcimer by the addition of a keyboard.

The harpsichord is the mother of our modern piano. It originally had two keyboards, one above the other, and the strings were picked by quills. Spinet was another name for this instrument.

Marius, of Paris, substituted small wooden hammers covered with felt for the quills, and about the year 1770 this plan of construction was generally adopted by all countries.

Our present piano is a stringed instrument with one keyboard. The numerous keys are connected with hammers which strike a set of metallic strings strung across a sounding-board. Its present compass is seven octaves and a fourth, with all the chromatic intervals.



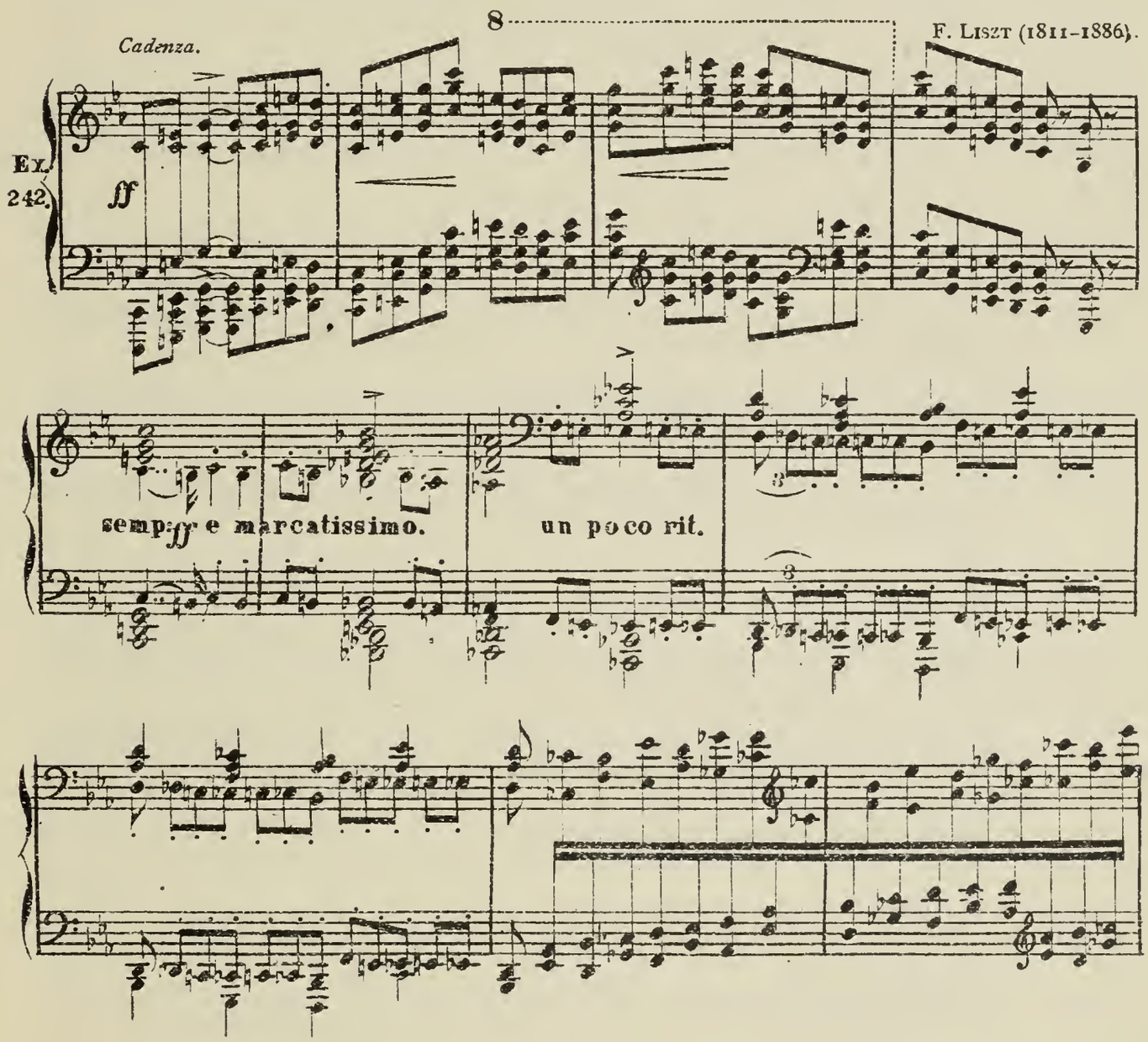
Sound as written.

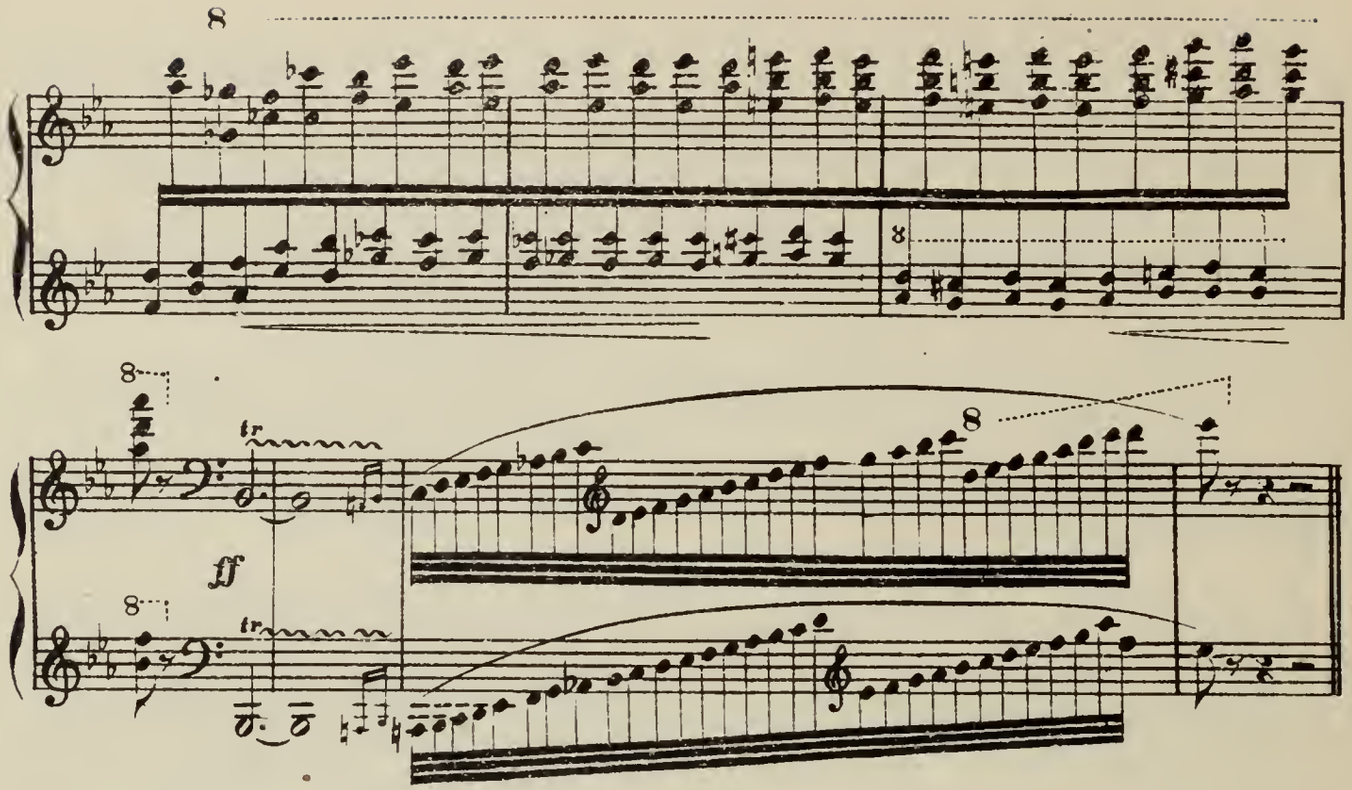
Compositions for this instrument are written upon two staves; the upper staff for the right hand in the G clef, and the lower staff for the left hand in the F clef. Sometimes these clefs are interchanged according to the pitch of the passages.

Every octave upon the piano is represented by seven white and five black keys, each black key representing either a sharp or flat, according to the key written. The F♯ by being slightly lowered and the G♭ by being slightly raised are thus represented by the same black key. By tempering the scales in this way a piano is never in perfect tune, which is the reason for its not blending well with any other instrument. Therefore, whenever the piano is used in ensemble music it should be treated independently.

Piano music is composed on two different plans: either by falling back upon the peculiar construction of the instrument, which allows very rapid execution of arpeggios, but no long sustained notes, or by imitating other instruments or voices in part-playing. To the first method partly belong the compositions of Chopin (1810–1849) and Liszt (1811–1886) altogether, who has highly developed the modern piano-technique.

EXAMPLE OF PIANO CADENCE—FROM PIANO-CONCERTO IN E FLAT MAJOR.



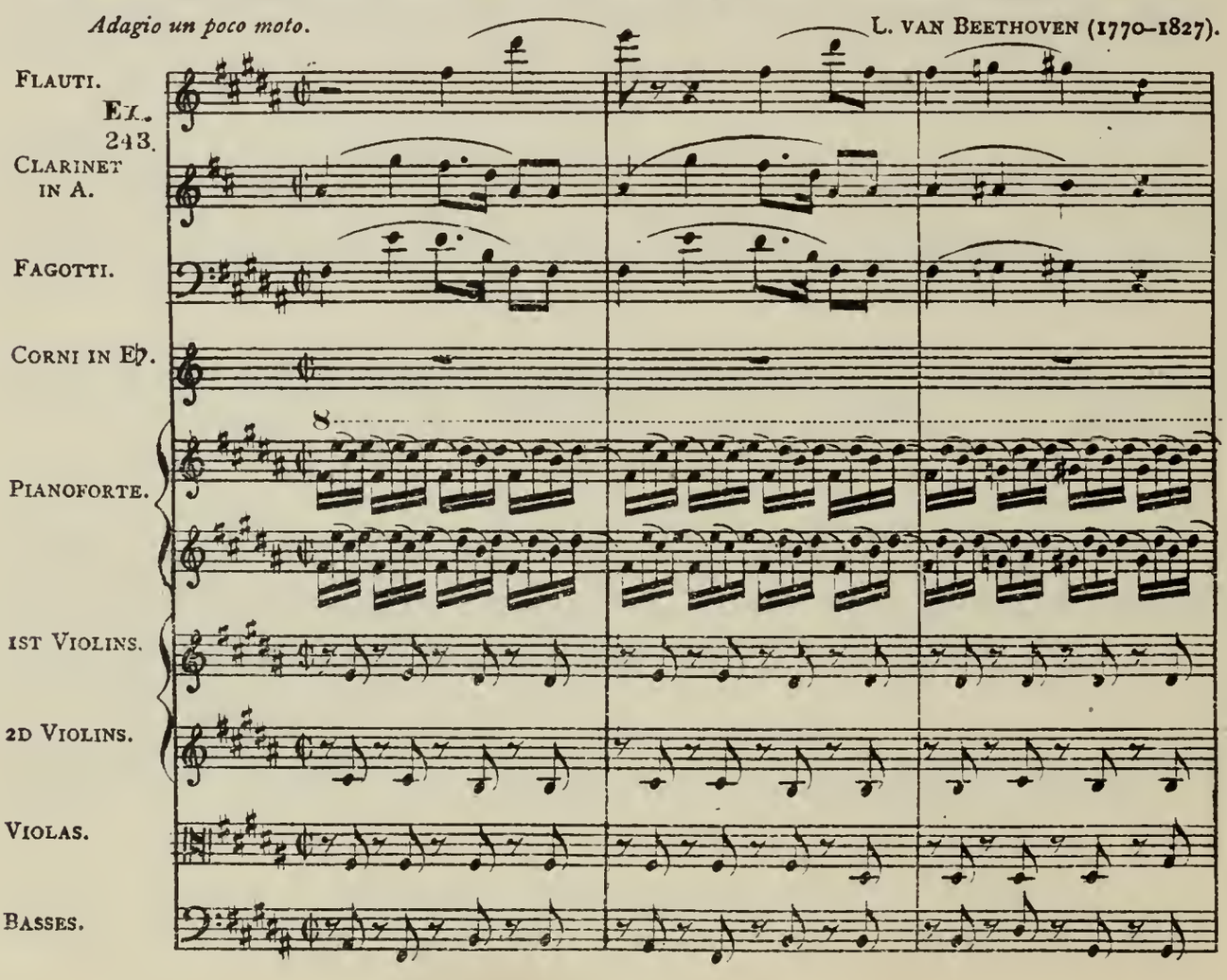


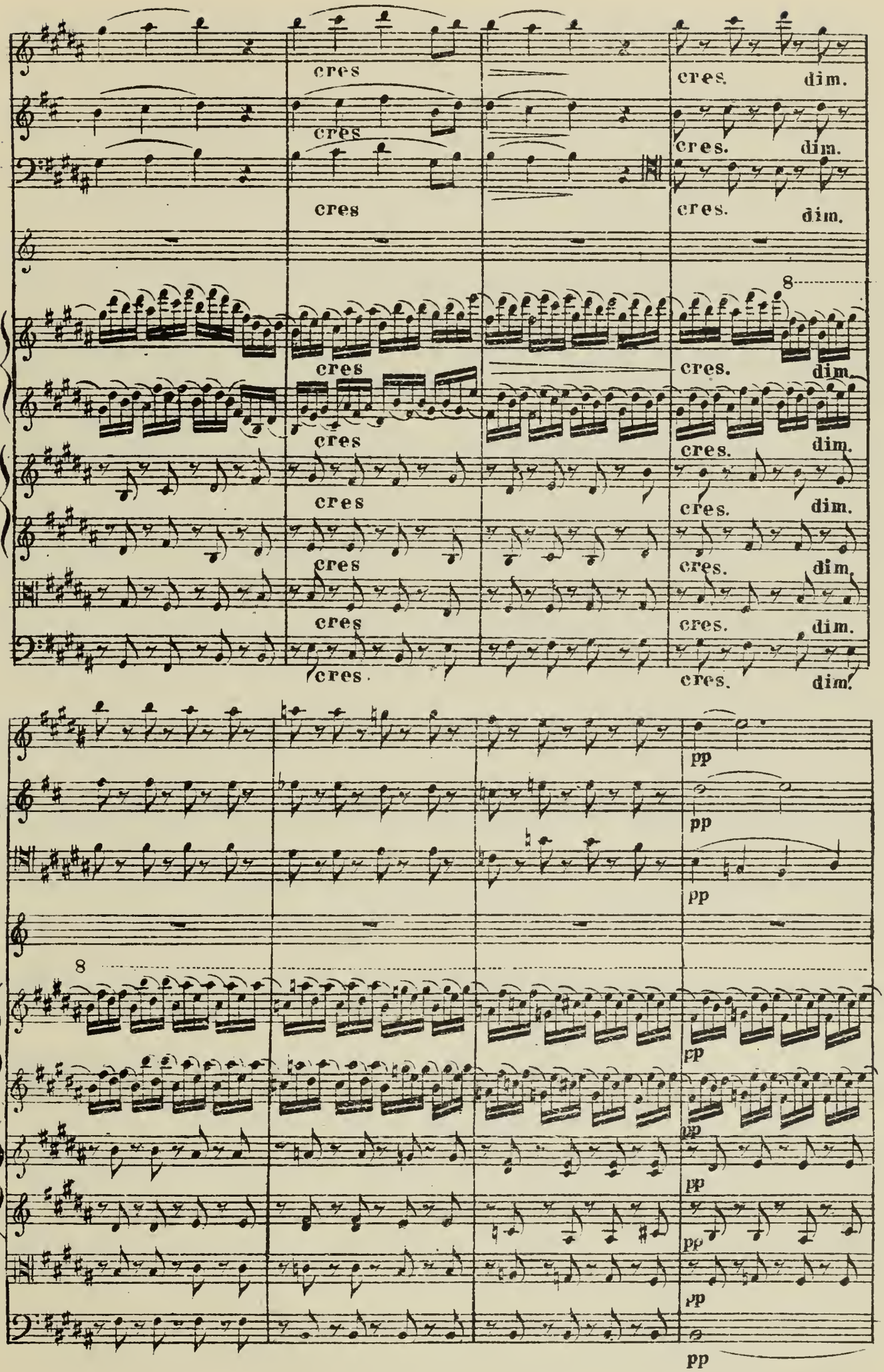
The Beethoven Sonatas generally are fair examples of the second method.

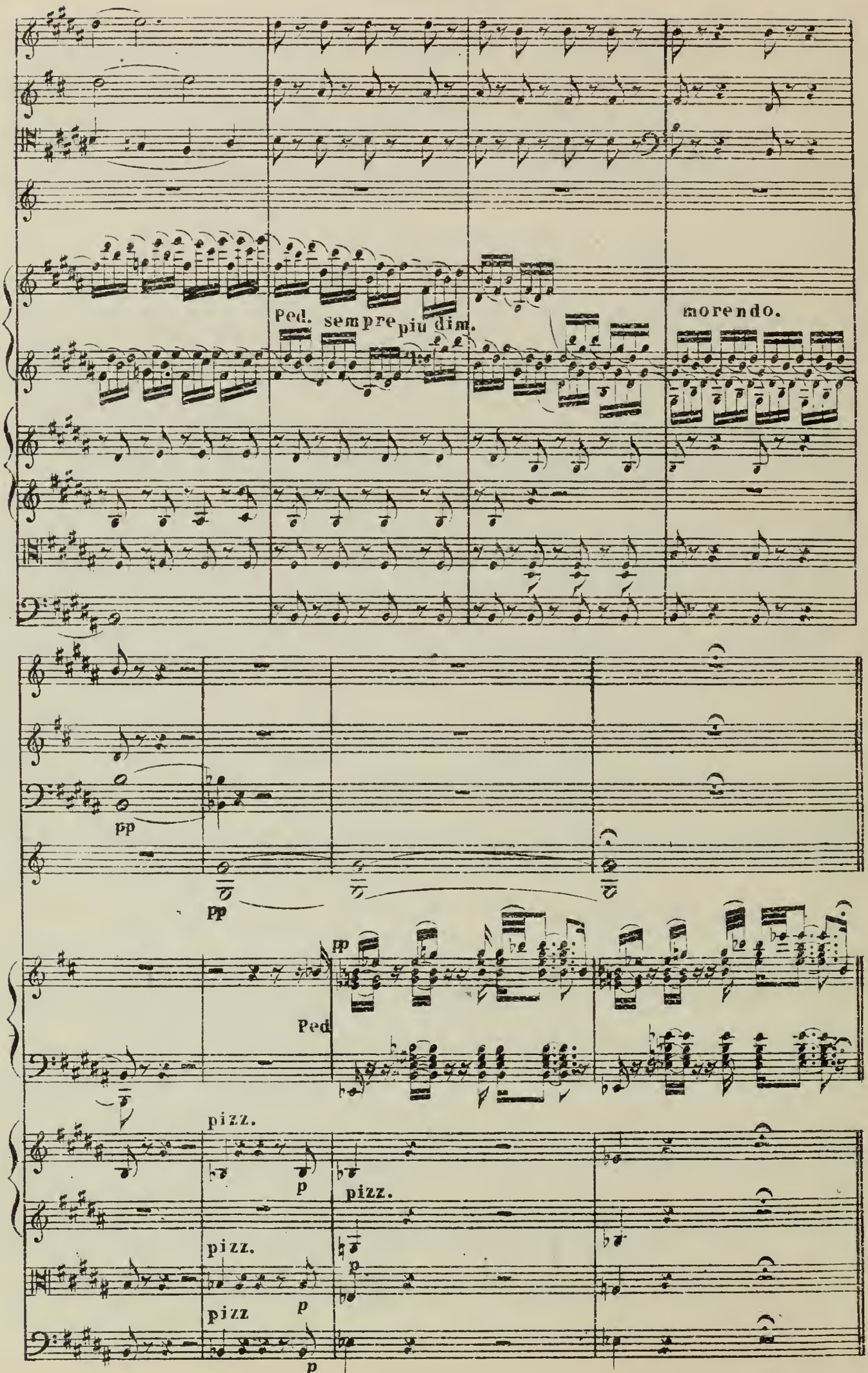
Ex. 243, from the slow movement of Beethoven's (1770–1827) E♭ concerto will afford the best idea as to the proper manner of treating the piano together with the wooden and stringed instruments.

EXAMPLE OF PIANO COMBINED WITH STRINGS AND WIND—FROM PIANO-CONCERTO IN E FLAT MAJOR.

Adagio un poco moto. L. VAN BEETHOVEN (1770–1827).




cres
cres
cres
cres. dim.
cres. dim.
cres. dim.
8
cres
cres
cres
cres
cres
cres
cres
cres. dim.
cres. dim.
cres. dim.
cres. dim.
cres. dim.
cres. dim.
pp
pp
pp
8
pp
pp
pp
pp
pp
pp


Ped. sempre piu dim.
morendo.
pp
pp
pp
Ped
pizz.
p
pizz.
pizz.
p
pizz
p
p

In Gade's (1817–1890) symphony in D minor and Berlioz's (1803–1869) Tempest Music, the piano is used as an orchestral instrument.

Whenever this instrument is forced to go beyond moderate effects in competition with a great mass it vanishes entirely; it should therefore either accompany or be accompanied.

WIND INSTRUMENTS.

The antiquity of wind instruments is indisputable. Representations of various ones are frequently met with on the ancient monuments of Egypt and Asia, but as no one of these represented instruments is now in actual existence, what succession of tones could be produced will remain a matter of guesswork.

The Royal Museum of Scandinavian Antiquities at Copenhagen possesses a number of large bronze instruments found during this century in the moors of Denmark. Their tubes are long and spiral, with a flatish bell and a mouthpiece very much like that of a modern tenor trombone. They are most artistically chiseled, and adorned below the mouthpiece with a string of bronze pendants.

Doctor Angul Hammerich, in his book about *The Lures*, as they are called, has lately drawn the attention of the world to these unique instruments. Belonging to the bronze age, they are at least three thousand years old, always found in pairs, and what is most remarkable, each pair tuned in a certain decided key, sounding the natural open tones of that key.

This proves that three thousand years ago the ancient people of the Baltic isles had scales in various keys, based upon the same principle as our present ones; and as the lures are always found in pairs, both instruments tuned in the same key, the ancients most likely knew the harmonious effects of the key-note, third, fifth and minor seventh sounded together.

The Lures can be played by any performer on brass instruments, and every midsummer day are publicly exhibited and played upon from the balcony of the museum.

WIND INSTRUMENTS WITHOUT REED.

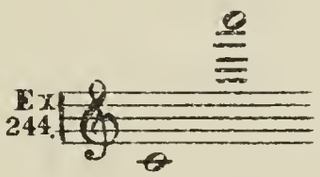
LARGE FLUTE.

The name flute is probably derived from fluta, the Romans' muræna, an eel-shaped fish, which it resembles in form.

The present flute is of German invention, and consists of a wooden tube about eighteen inches long and an inch and a half in diameter. It is generally made in three sections which screw into each other, and is furnished with holes with or without metal keys. The mouth aperature lies about two inches and a half from the upper extremity of the tube, and is applied sideways to the lips.

Music for the flute is written in the G clef, and its compass is three octaves with all the chromatic intervals.

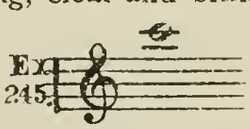
Ex. 244.



Sound as written.

The high tones of the flute are ringing, clear and brilliant, and admirably adapted to forte passages. Any tones higher than

Ex. 245.

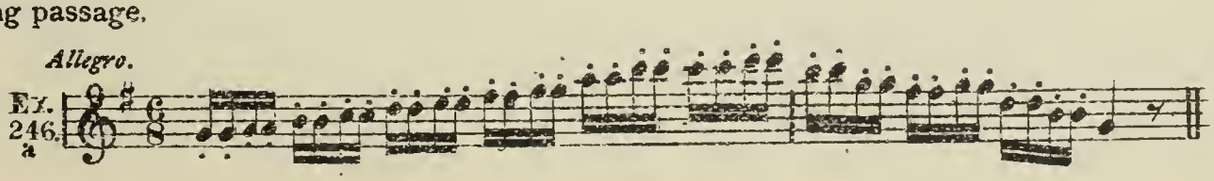


should, however, be used with caution in pianissimo. The low tones of the Boehm keyed flute are of an exquisitely tender character.

The flute is the most flexible of all wind instruments, equally suited to rapid diatonic or chromatic passages, to arpeggios, slurred or detached. By double tonguing, it is capable of playing the following passage.

Allegro.

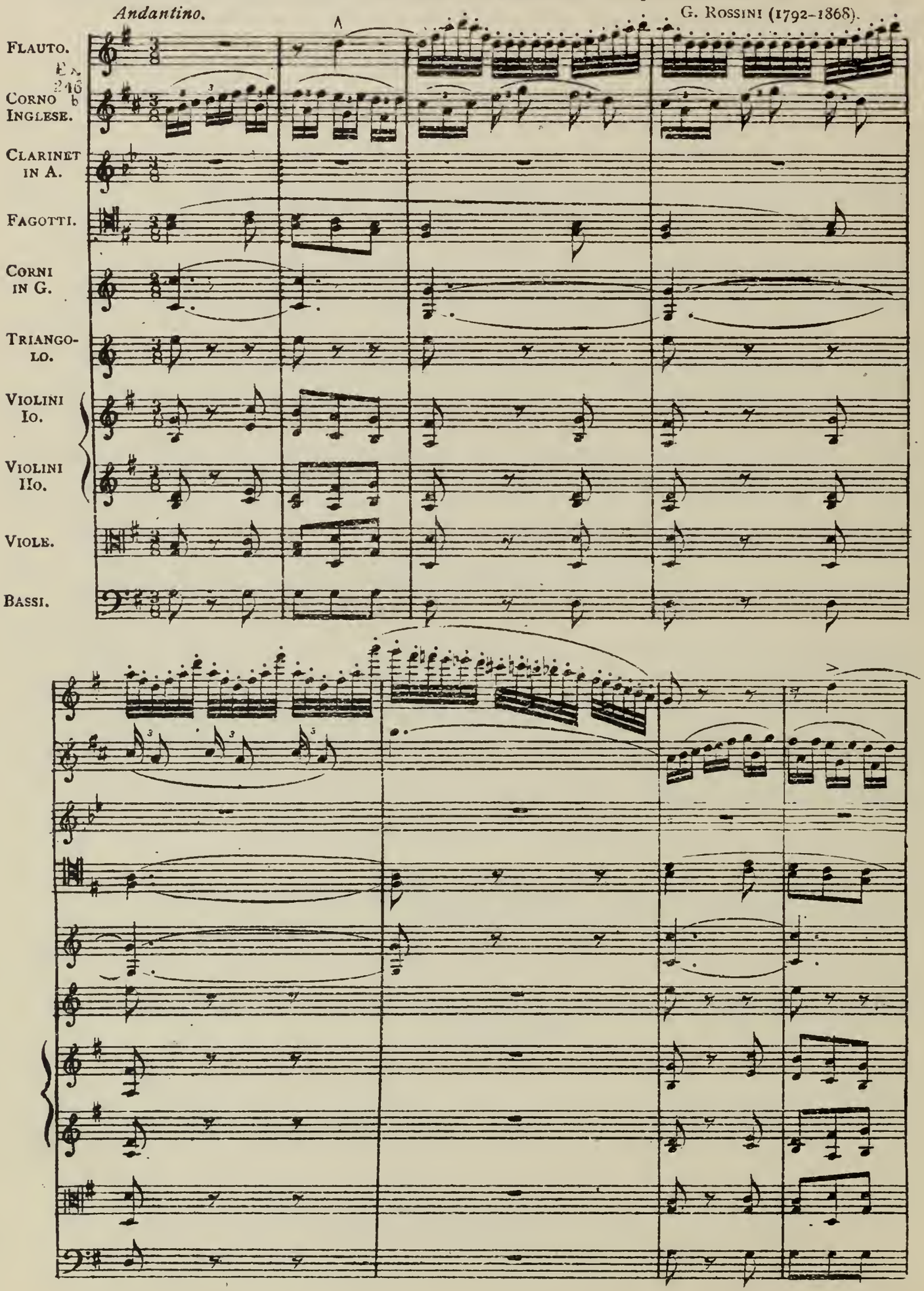
Ex. 246. a

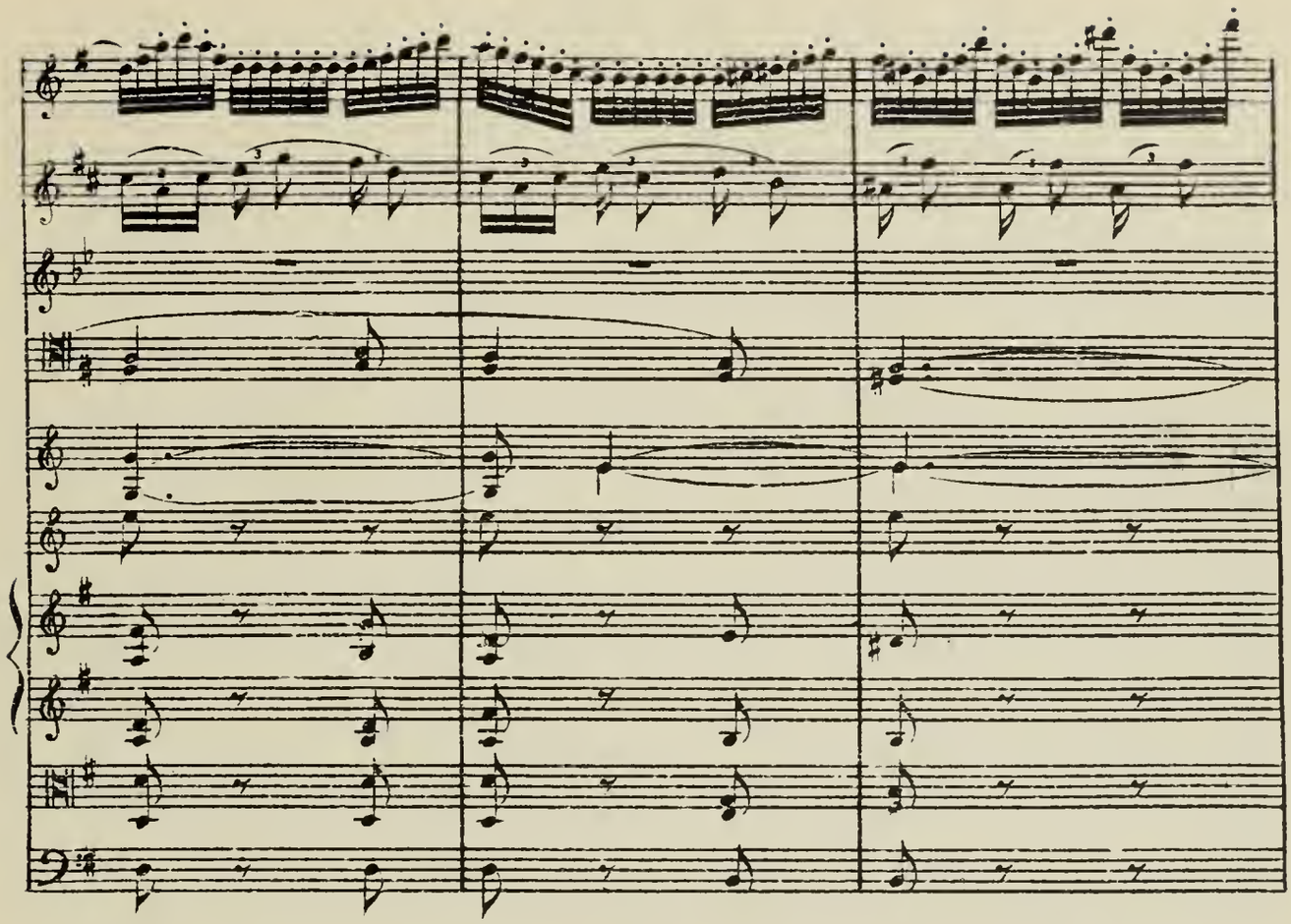


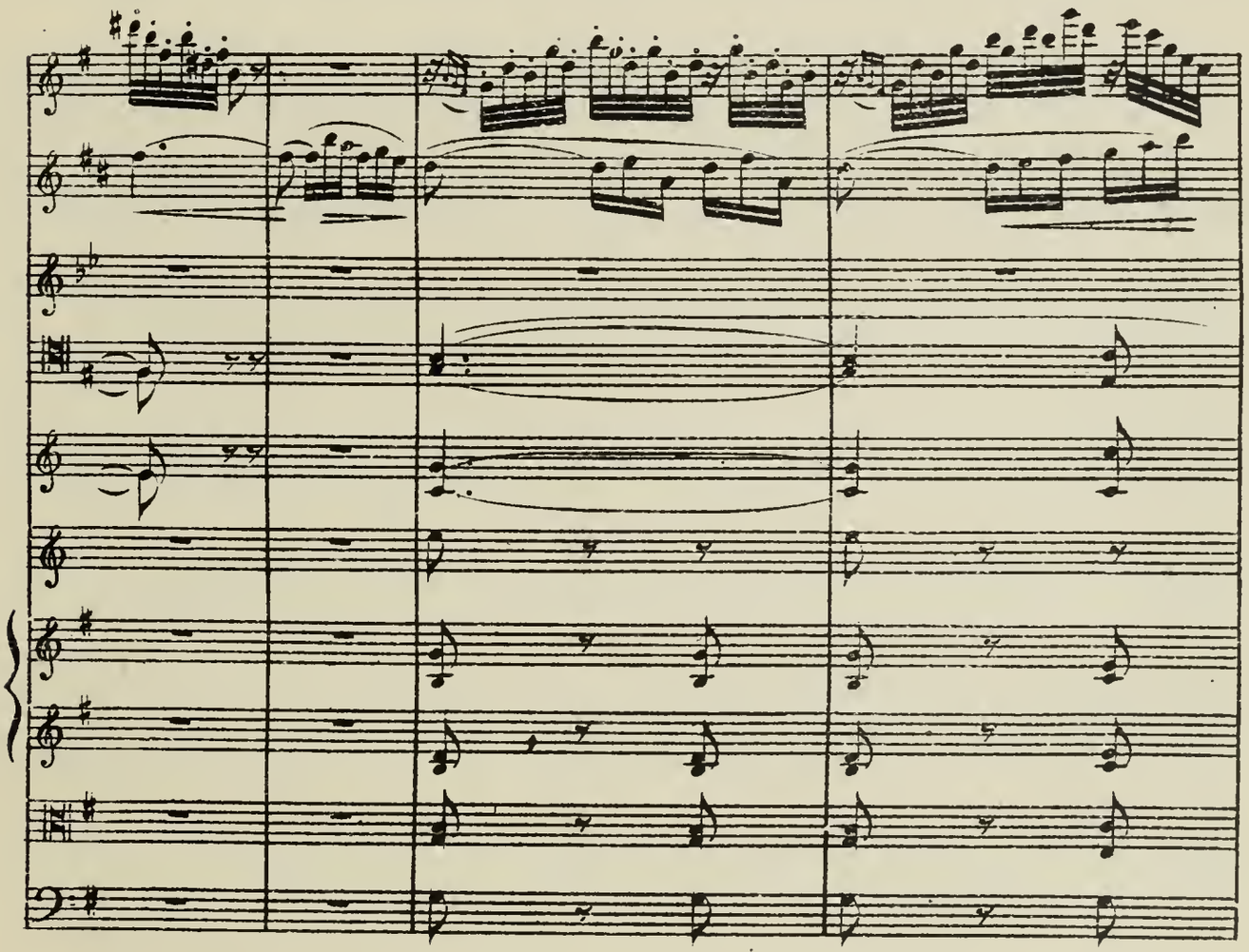
In orchestral scores there are two flutes written upon one staff, but playing different parts.

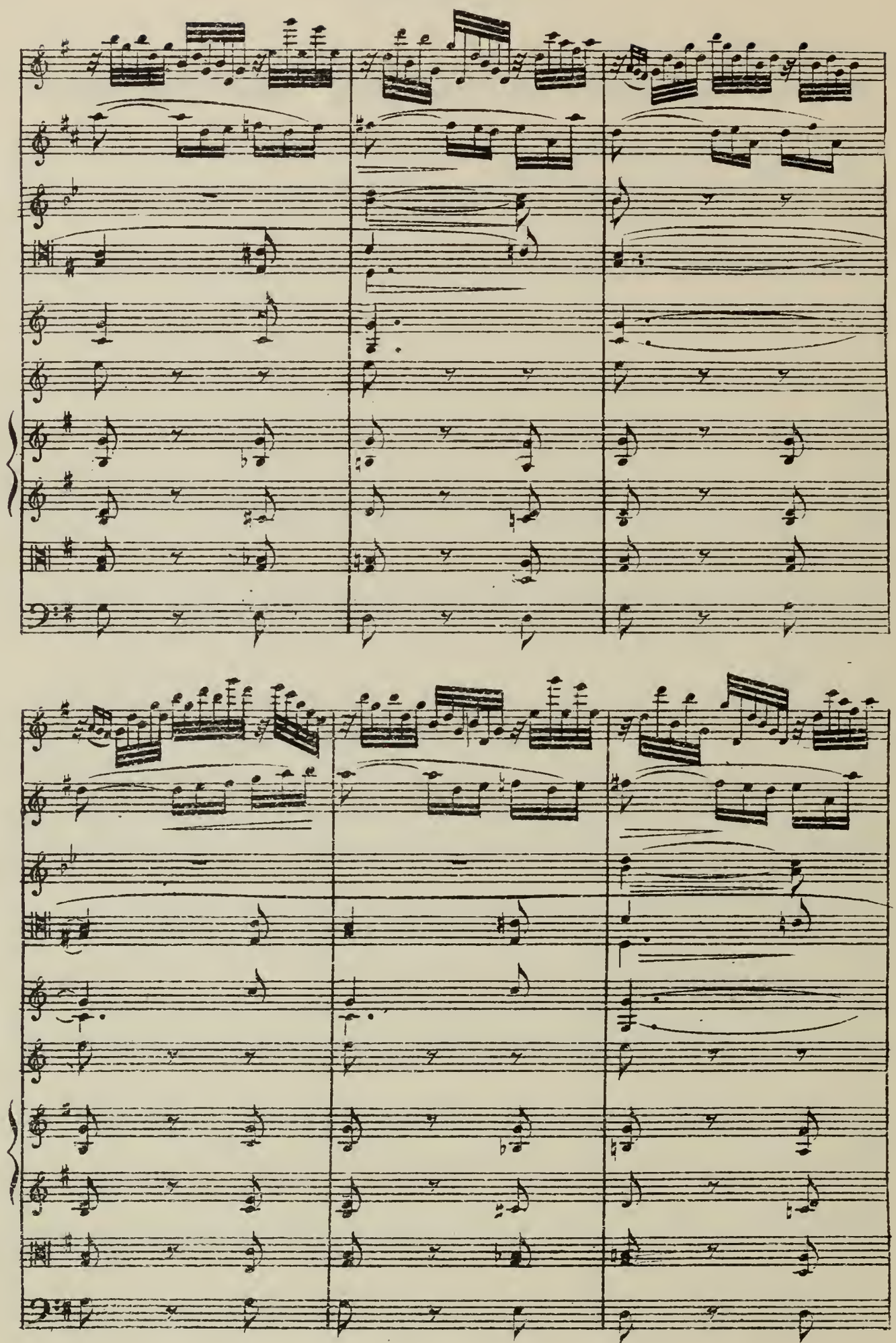
An example of the use of the low tones of the flute can be found in the Church March from Gluck's (1714–1787) opera Alceste.

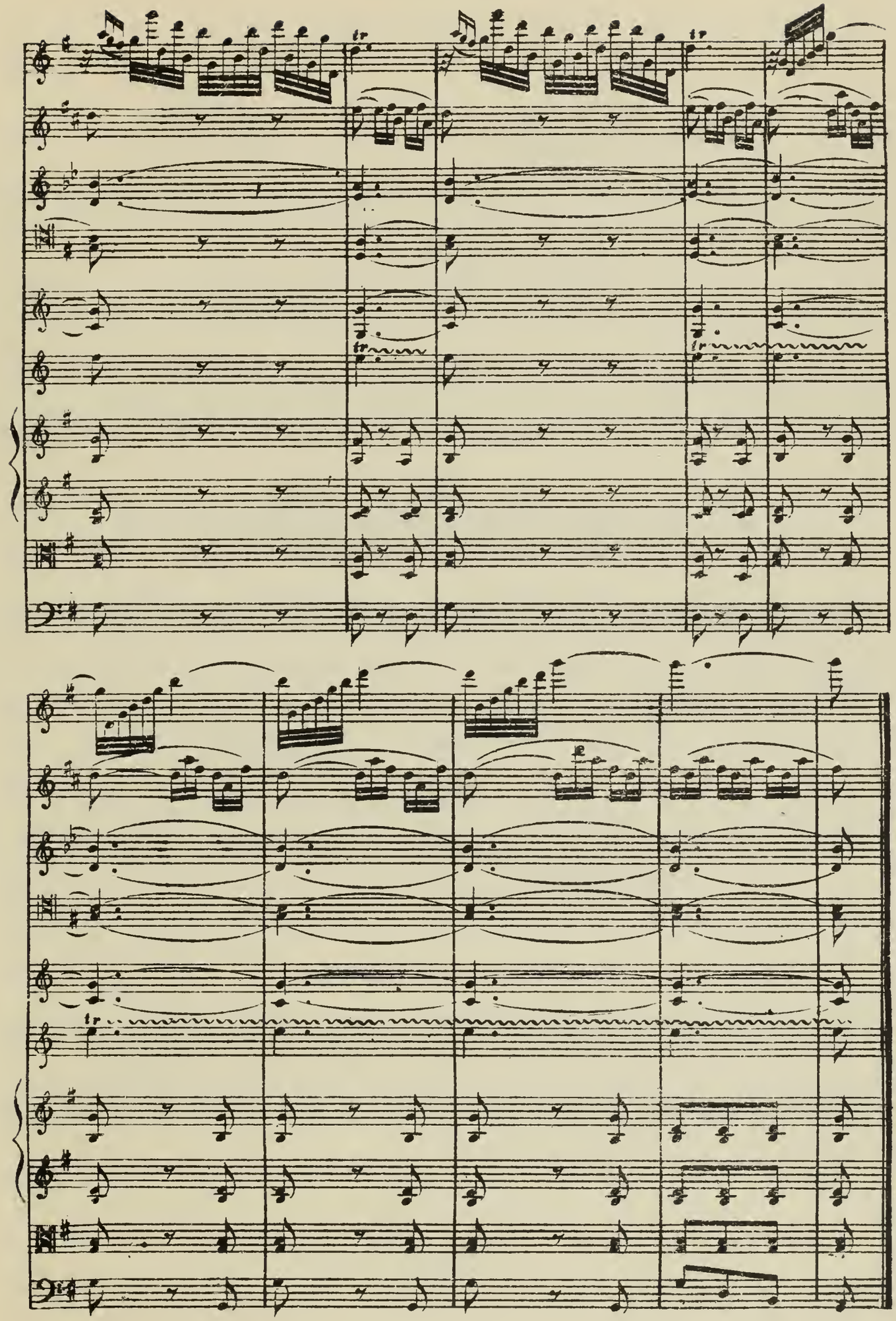
The following example is taken from Rossini's overture to the opera William Tell.







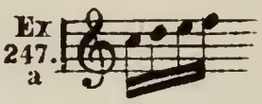




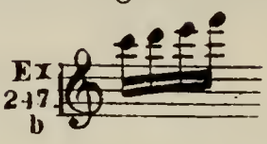
PICCOLO OR SMALL FLUTE.

The piccolo flute is a transposing instrument, and sounds an octave higher than the large flute.

Written Ex 247. a

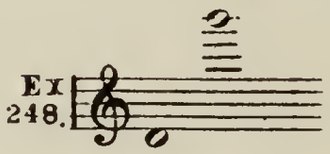


Sounds Ex 247 b



It is written in the G clef and has a compass of two octaves and a half with all the chromatic intervals.

Ex 248.



Sound one octave higher than written.

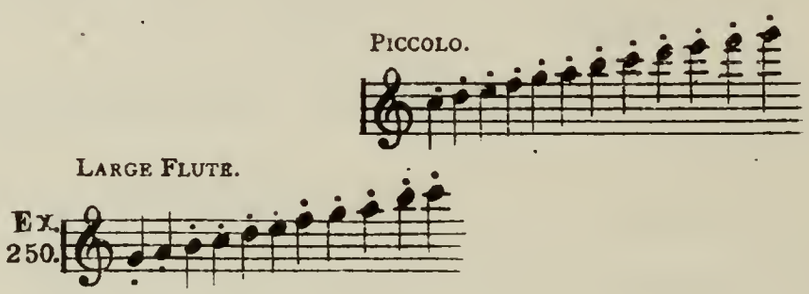
It is the highest wind instrument in the orchestra, and for violent and tearing effects, impassioned outbursts, storm and tempest, or scenes of infernal character, it is indispensable.

The diabolical sneer of the two piccolo flutes in 3ds, in the Drinking Song from the opera The Freischütz, is one of Weber's (1786–1826) happiest orchestral effects.

Ex 249

The piccolo flute may also be employed in piano passages; it is a mistake to believe that it can only be played forte.

Example 250 shows how the piccolo flute can be used in order to continue the compass of the large flute to the greatest extent.



WIND INSTRUMENTS WITH REED.

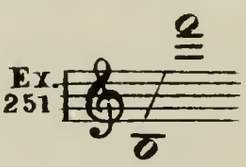
OBOE.

The Oboe, Italian corruption of the French *haulbois*, signifies high wood. It was so called because it used to take the highest part in the orchestra before flutes were introduced.

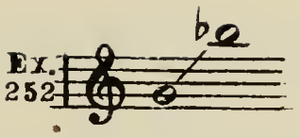
The oboe is a wooden tube about eighteen inches long, furnished with holes and keys, and the mouthpiece, about two inches long, is made of a small, thin, double-folded reed. The instrument when played is held in a straight line from the mouth.

Its compass is two octaves and a half with chromatic intervals, and it is written in the G clef.

Ex. 251



Sound as written.

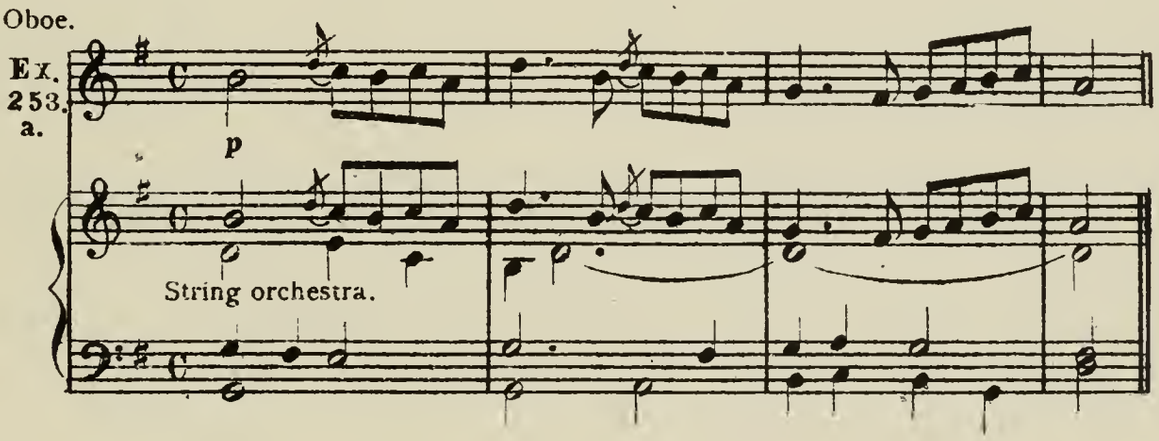
The tones from Ex. 252  are the ones which should be preferred for piano passages, as the low tones are hard and shrill, and those above B♭ weak and thin. Rapid diatonic, chromatic or arpeggio passages produce an ungraceful and almost ludicrous effect, and should be avoided. The oboe is a melodious instrument of a pastoral character, warm and chaste color, candor, artless grace, tender joy and quiet grief, and it should therefore be treated accordingly. A certain degree of agitation is also within its power to express; but care should be taken not to urge it into outbursts of anger or heroism, for then its small sweet voice becomes absolutely grotesque. With the exception of Gluck (1714–1787) and Beethoven (1770–1827), the German classic composers have not treated the oboe according to its character.

It usually gives the pitch to the orchestra, and with its mate the English horn, the French horn, the violoncello and the harp, forms the poetic element of that mass of instruments.

It is frequently used in combination with the violoncello, and in this case its remarkable resemblance to the tones of the strings is apparent. Therefore, when written in unison with the violins, whilst it serves to strengthen their tone, its individuality is lost.

Oboe.

Ex. 253. a.



It is advisable, in performances of modern orchestral compositions, to substitute an English horn for the second oboe, as the low tones of the latter are of a baa-ing, unpleasant nasal quality, and in nine cases out of ten not in perfect tune, whilst, on the contrary, the corresponding tones on an English horn are of a mellow and pleasant character.

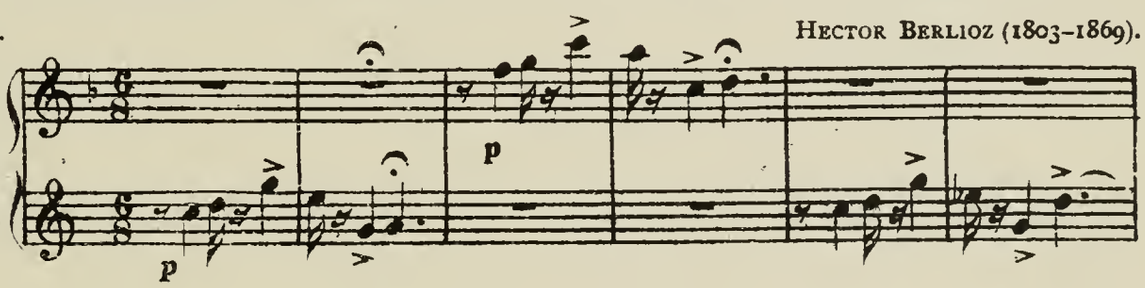
EXAMPLE OF OBOE AND ENGLISH HORN SOLOS—FROM THE SLOW MOVEMENT OF SYMPHONIE FANTASTIQUE.

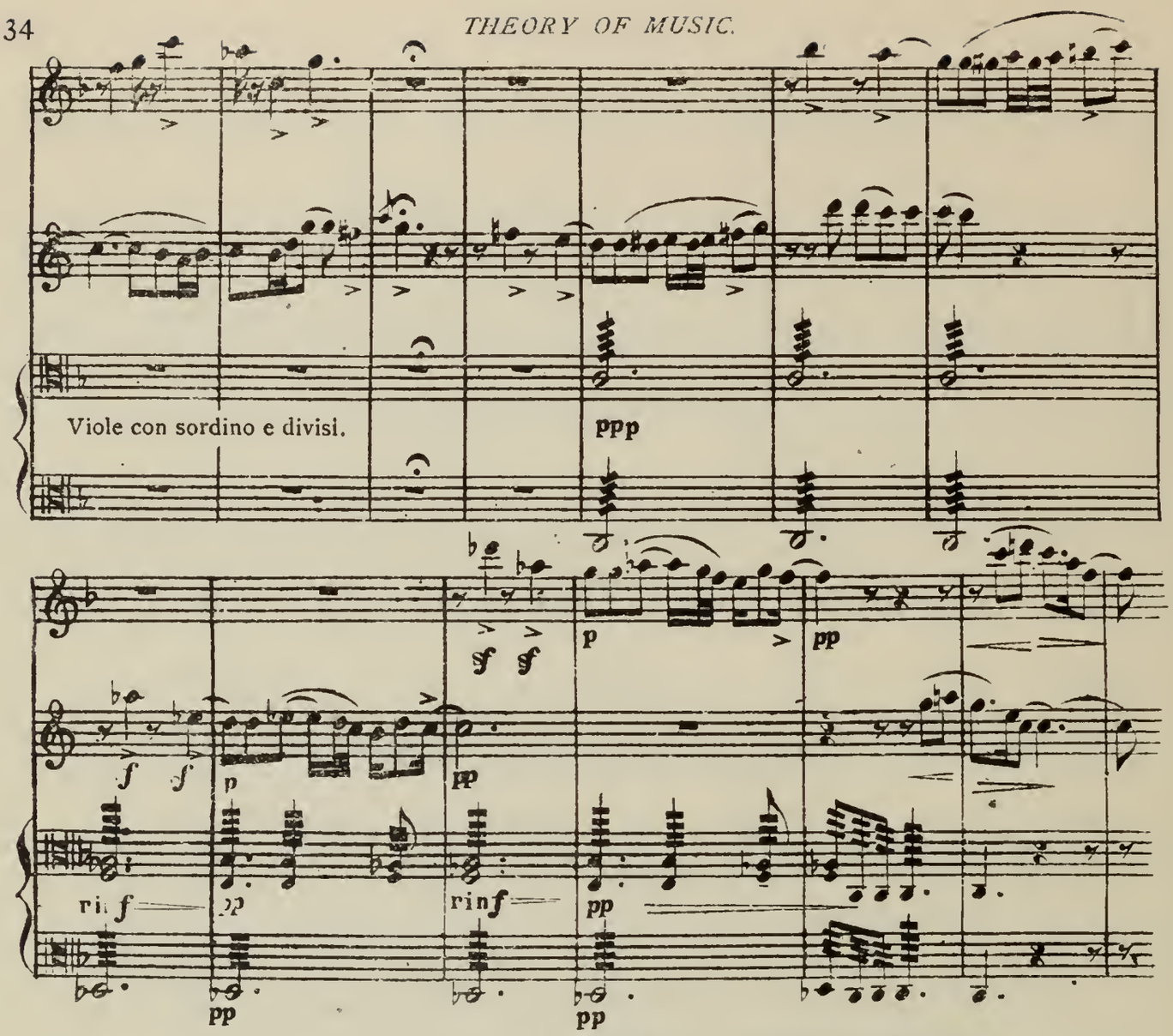
Adagio. HECTOR BERLIOZ (1803–1869).

OBOE IMO.

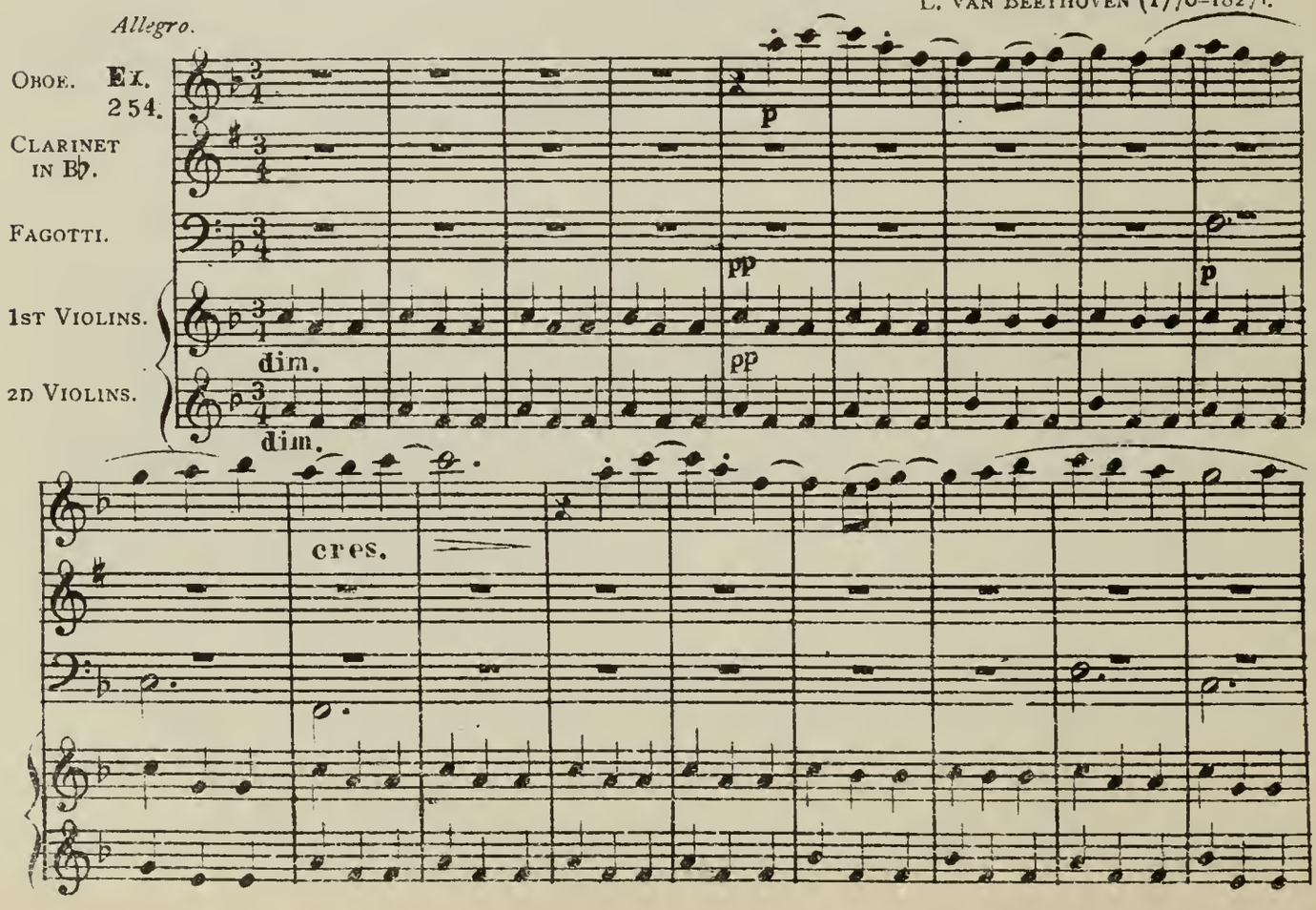
Ex. 253. b.

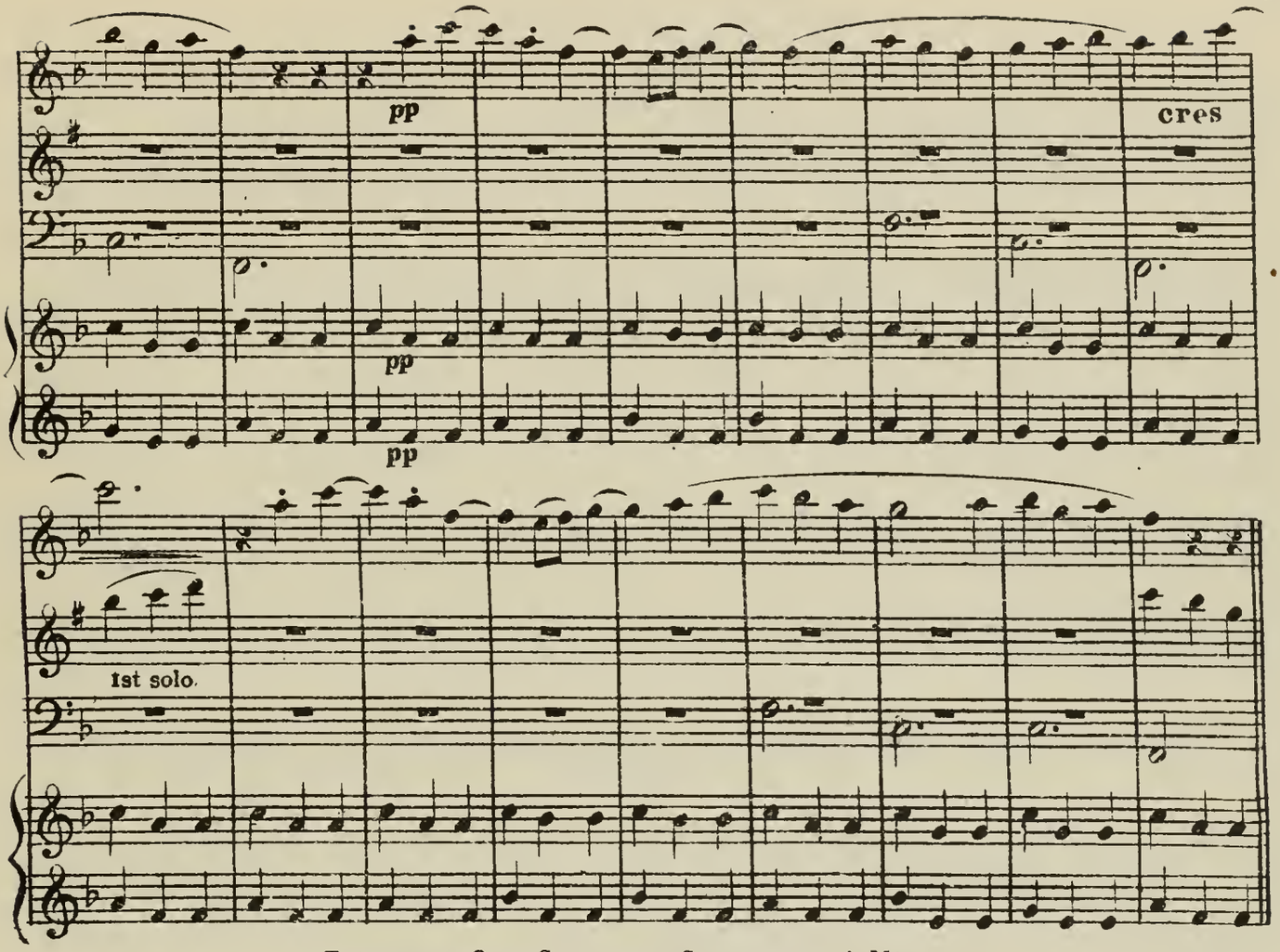
CORNO INGLESE.





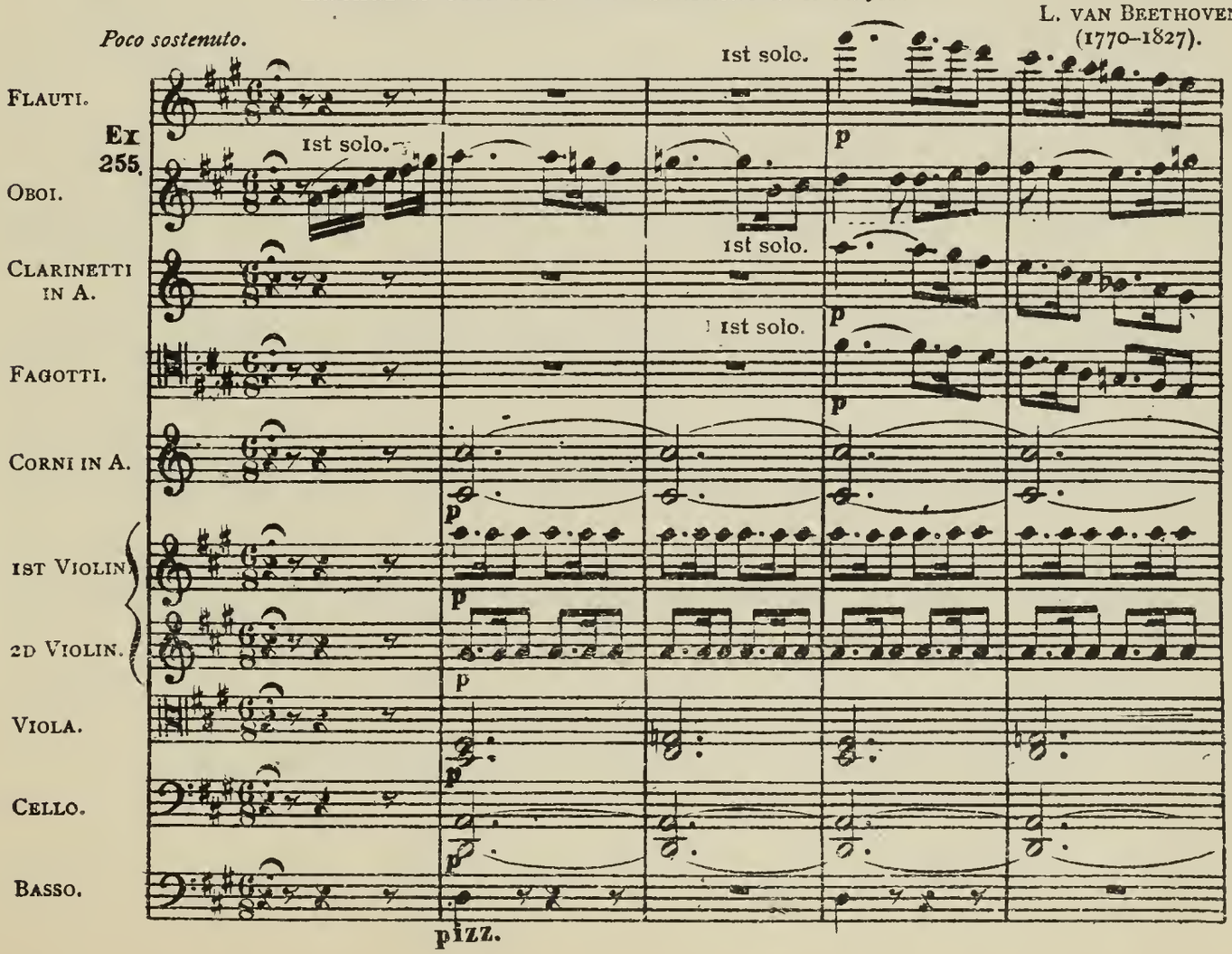
EXAMPLE OF OBOE SOLO—FROM THE SHERZO OF THE PASTORAL SYMPHONY.
L. VAN BEETHOVEN (1770–1827).

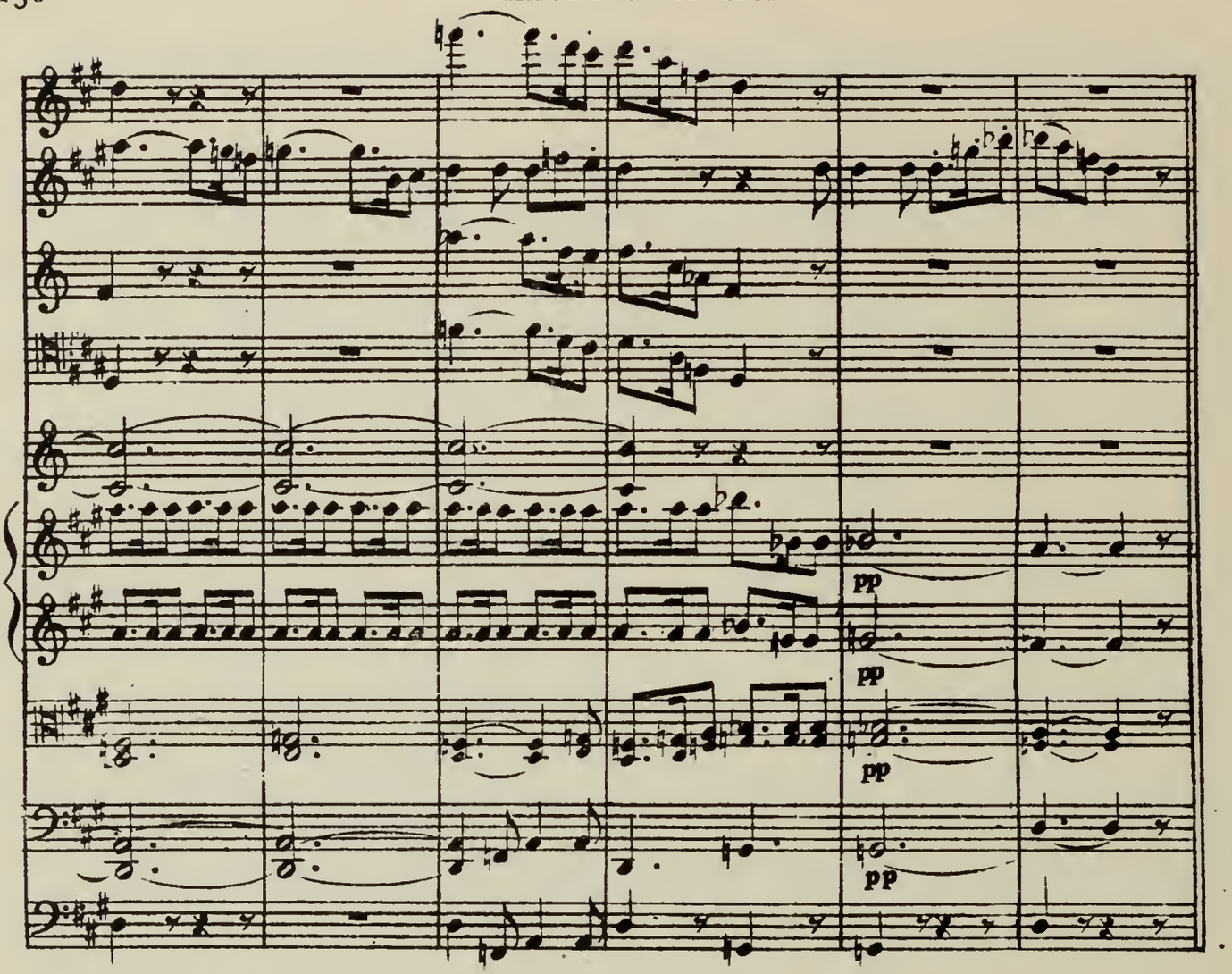




EXAMPLE OF OBOE SOLO—FROM SYMPHONY IN A MAJOR.

L. VAN BEETHOVEN (1770–1827).





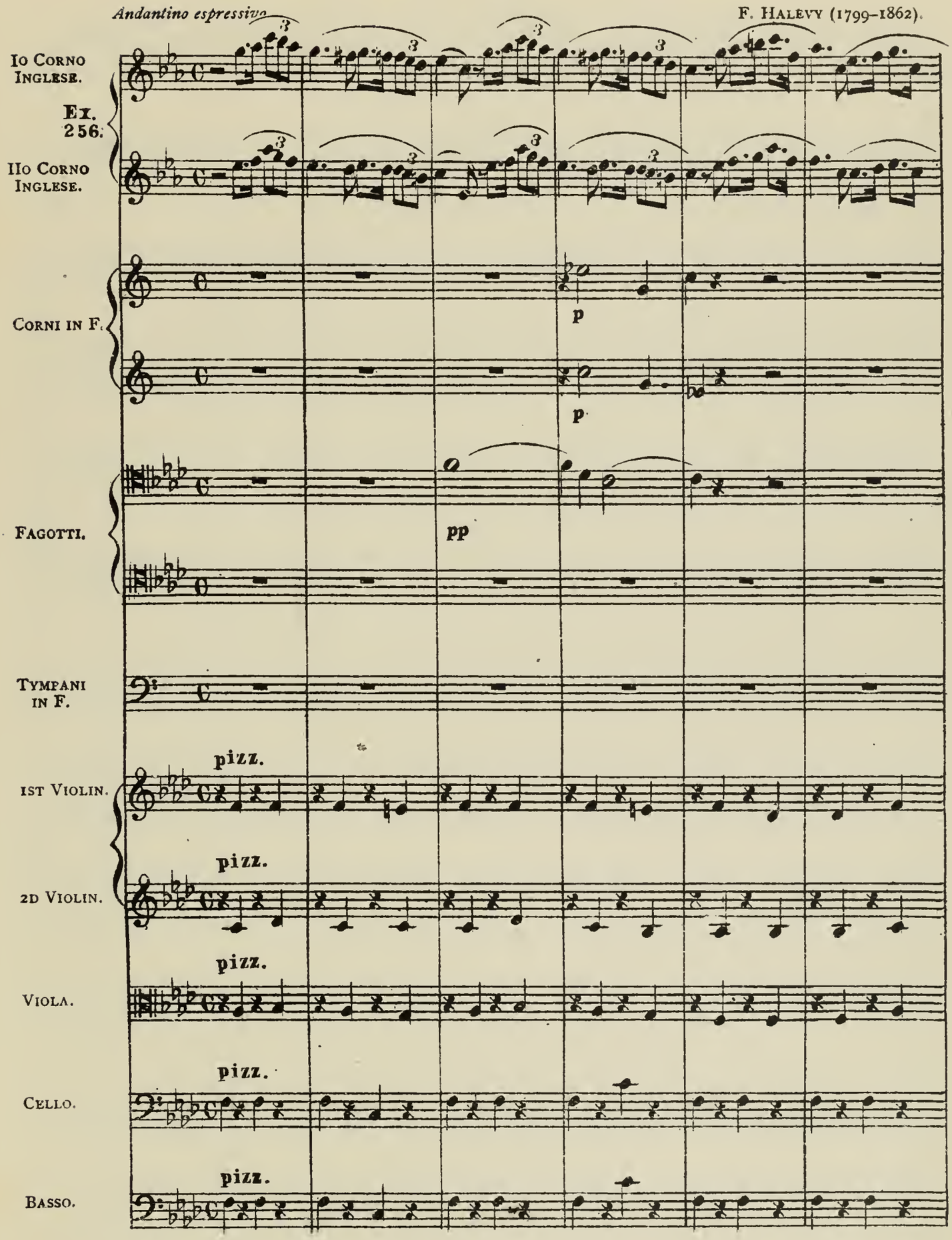
ENGLISH HORN.

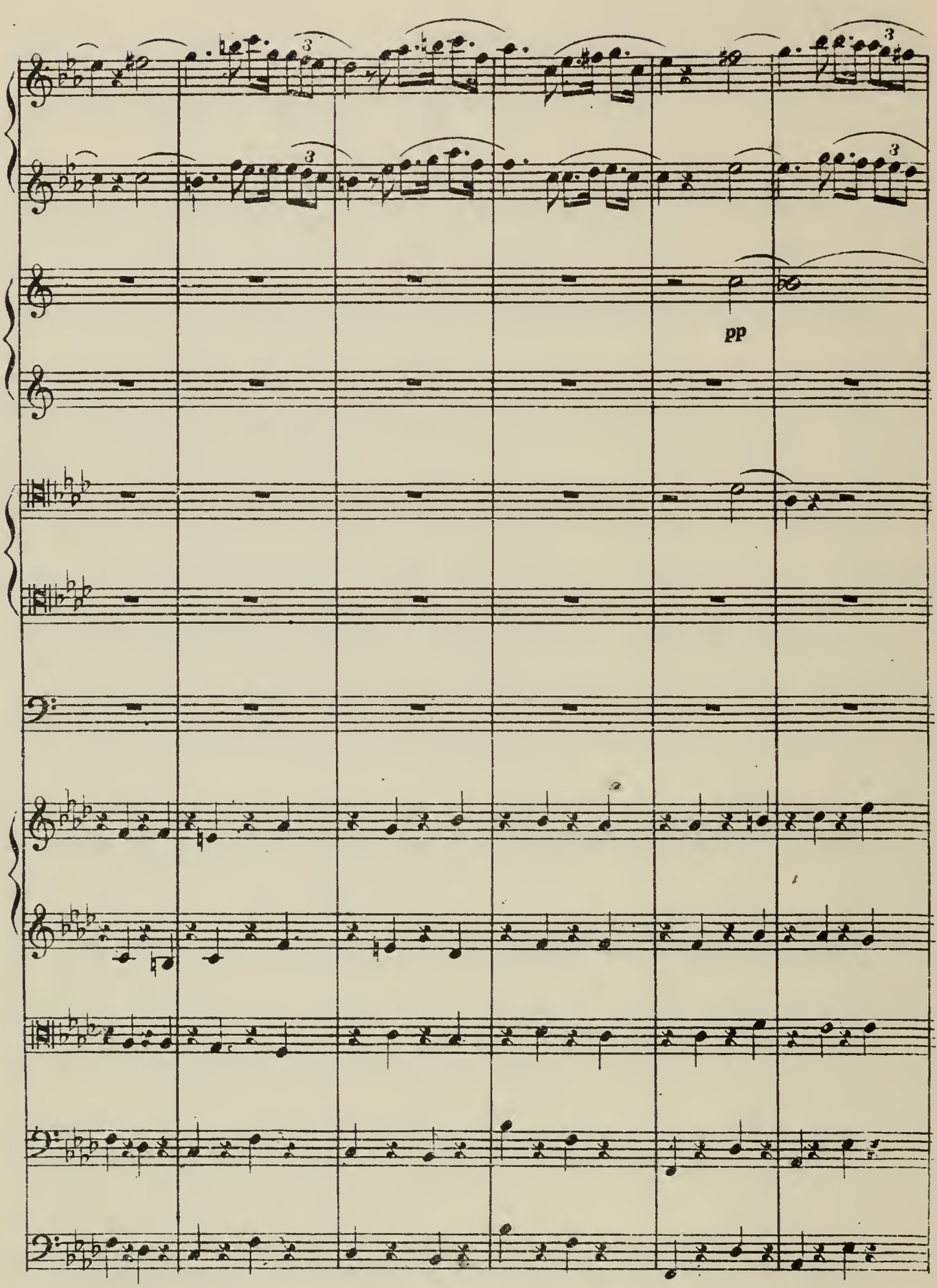
The English horn or *corno inglese* is the tenor edition of the oboe. It is longer of shape, with a curve in its upper joint. The English horn, written in the G clef, is a transposing instrument and sounds a perfect 5th below the real notes; consequently a composition intended to sound in C major must be written in G major. The compass of the English horn is the same as the oboe (see Ex. 251), but, as above stated, sounds a perfect 5th below.

All that has been said of the oboe will apply to this instrument; but being of a deeper pitch, its tone-color will be of a correspondingly deeper quality. It also has a more noble voice than the oboe, and there is something remote and vague in its character which renders it superior to all other instruments for exciting regret and reviving images and sentiments of the past. This instrument, without a single exception, ranks as the most beautiful in the orchestra. It is essentially French and found in their scores of old as well as modern composers. It was unnoticed by Haydn (1732–1809), Mozart (1756–1791) or Beethoven (1770–1827), and not even the romantic Weber (1786–1826) made use of it, the reason being inexplicable, since any oboe player can perform upon the English horn after a few days' practice.

Wagner (1813–1883) in his operas makes use of the alto oboe, an instrument between the oboe and English horn in compass.

EXAMPLE FOR TWO ENGLISH HORNS—FROM THE OPERA THE JEWESS.

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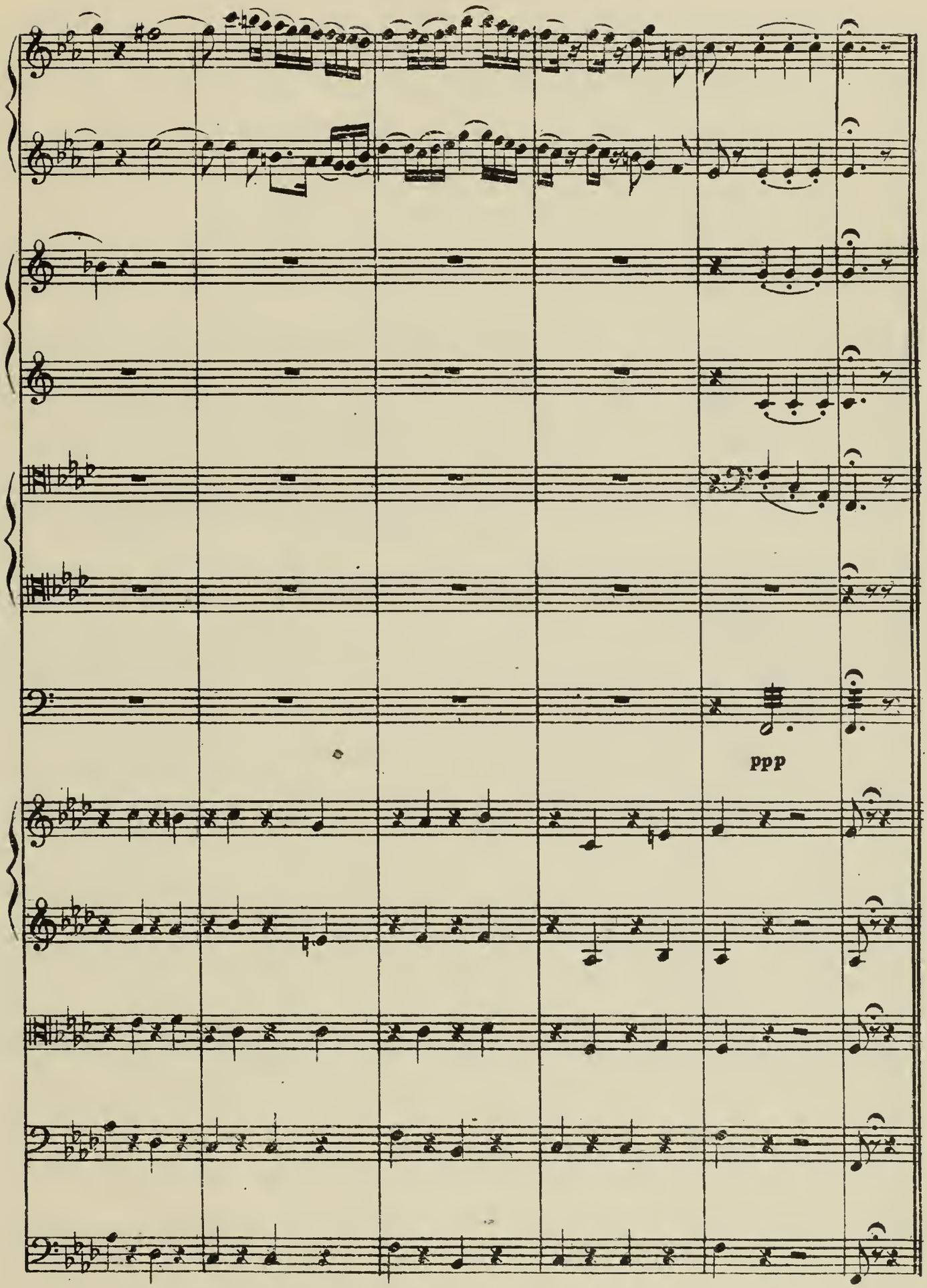
3
3
pp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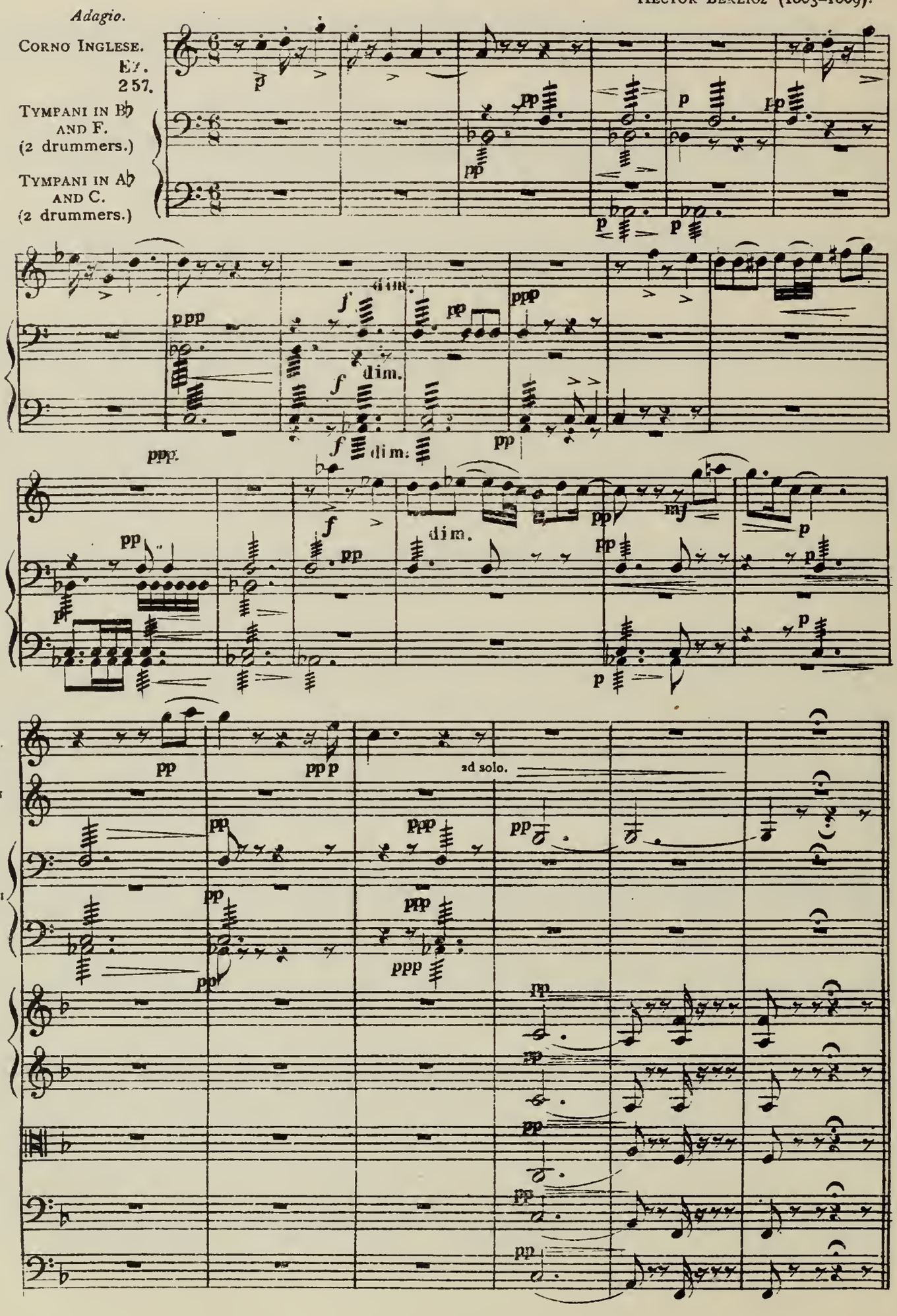
EXAMPLE OF ENGLISH HORN SOLO COMBINED WITH FOUR TIMPANI—FROM THE END OF THE SLOW MOVEMENT OF SYMPHONIE FANTASTIQUE.

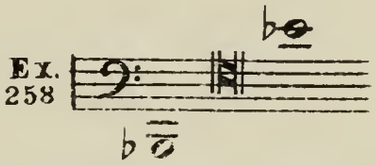
HECTOR BERLIOZ (1803–1869).



BASSOON.

The Bassson or Fagot, Italian Fagotto, a bundle, is so called in that language because, when the instrument is taken to pieces and bound together, it resembles a bundle of sticks. It is the bass of the oboe. This instrument, about four feet in length, consists of two tubes joined, which are furnished with holes and keys. In the smaller tube, about one-third from the extreme end of the instrument, a thin curved metal mouthpiece is placed—somewhat similar to the letter S—with a thin double-folded reed at the end.

It is generally accepted that the bassoon was invented in 1539, by Afranio of Pavia. Its compass is more than three octaves, with chromatic intervals,



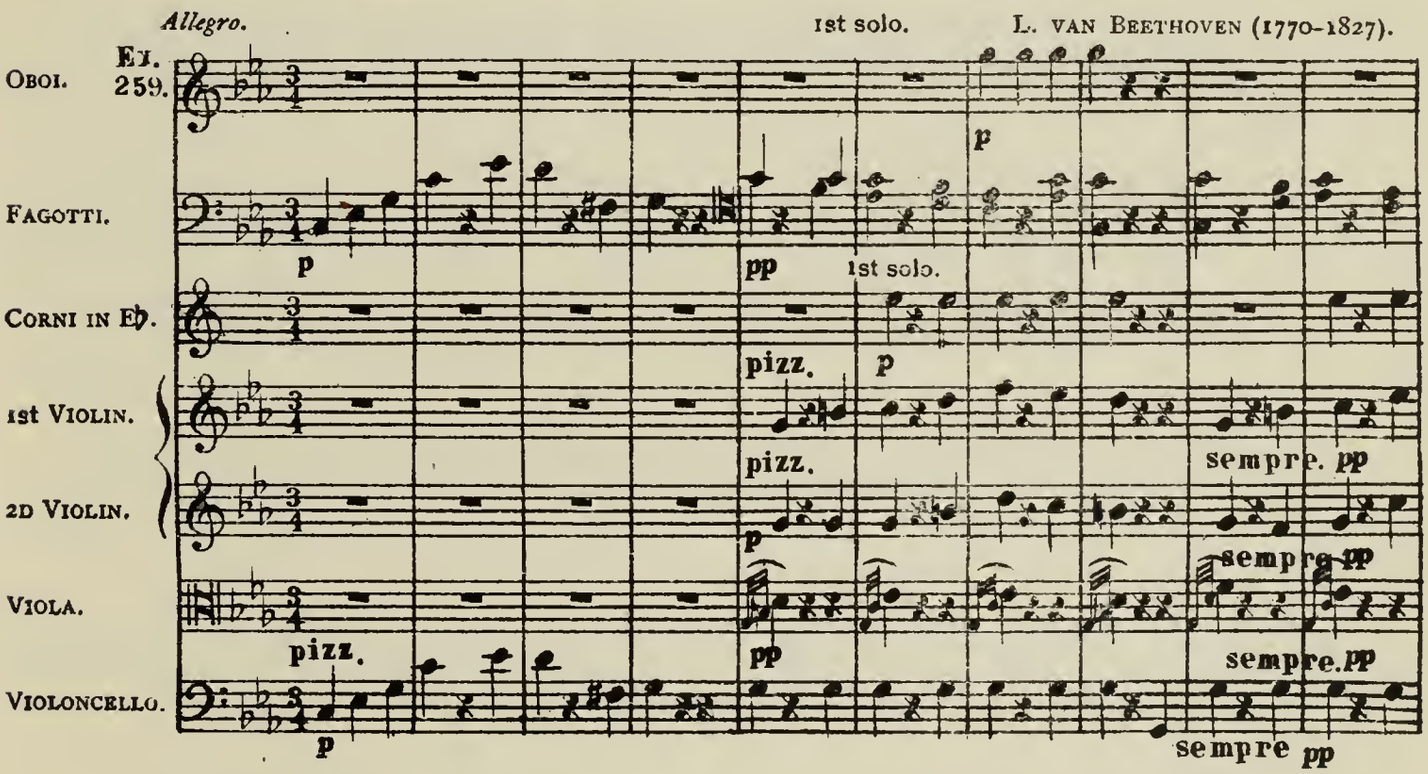
Sound as written.

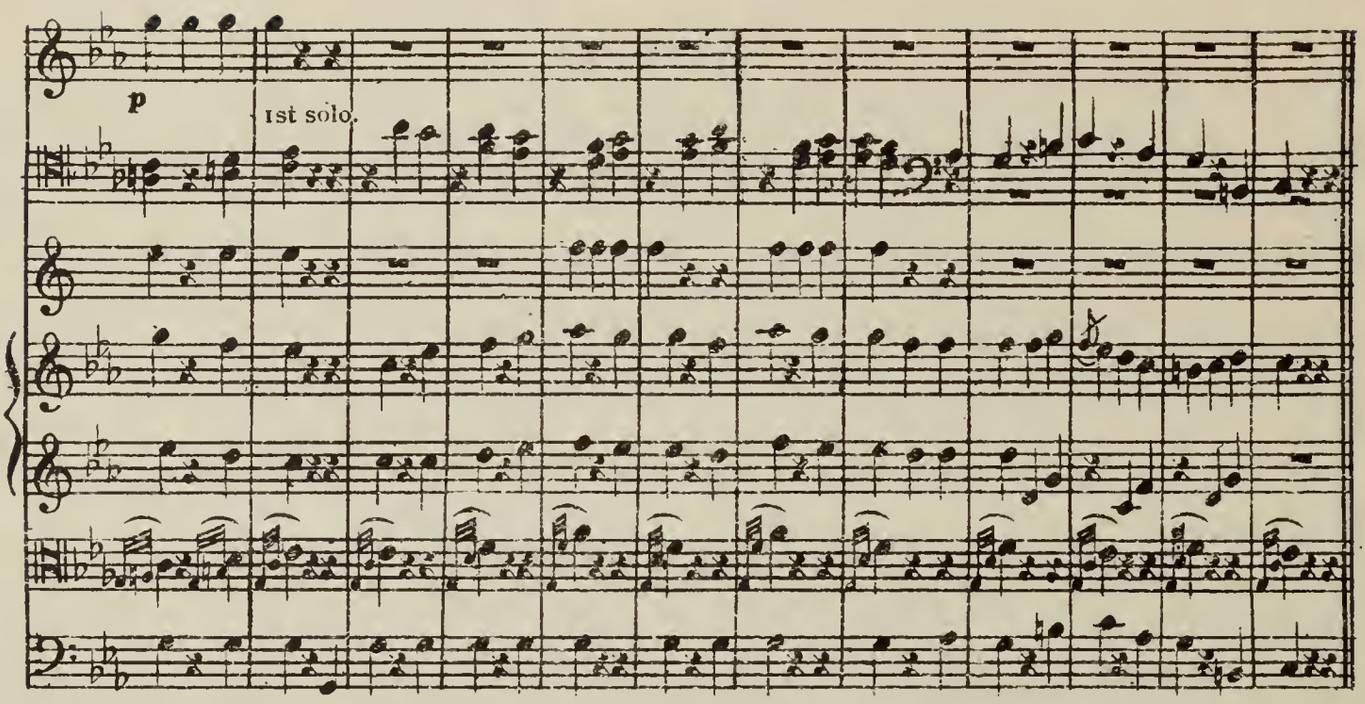
and it is written in the bass and tenor clef. Trills and shakes on the two extremes of its scales are almost an impossibility. Rapid legato passages in the diatonic scales of A, D, G, C, F, B♭ and E♭ are comparatively easy.

Its sonorousness is not very great, the quality of its tone devoid of brilliancy and nobility. It can be used equally well to express the extremes of sentiment, grief or grotesqueness, solemnity or buffoonery, while the character of its high notes suggests pain and suffering.

Example 259, from the Scherzo of Beethoven's (1770-1827) C minor symphony, shows the odd little clucking produced by the forced tones of the high G and A flat.

EXAMPLE FOR BASSOONS—FROM THE SCHERZO OF THE SYMPHONY IN C MINOR.

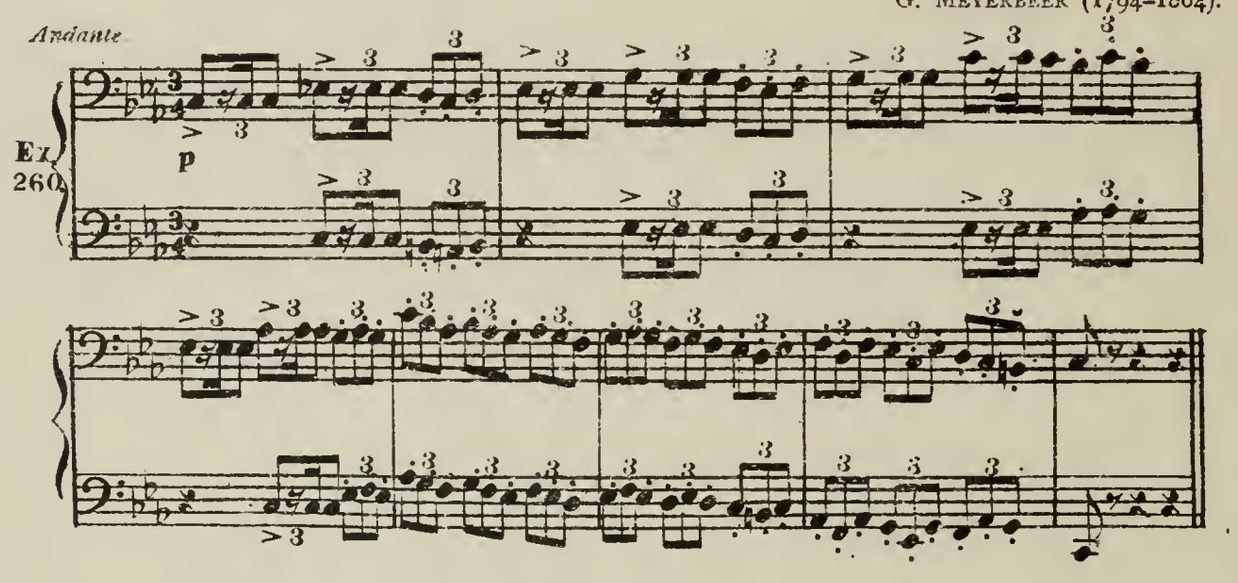




In the resurrection scene of the nuns in Meyerbeer's (1794–1864) opera Robert of Normandy, the pale, cold, corpse-like color of the music is produced by the weak middle tones of the bassoons.

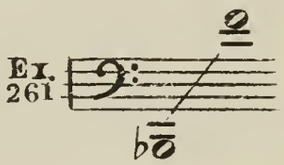
EXAMPLE OF PASSAGE FOR BASSOONS—FROM THE OPERA ROBERT OF NORMANDY.

G. MEYERBEER (1794–1864).



DOUBLE-BASSOON OR CONTRA-FAGOT.

This instrument is to the bassoon what the double-bass is to the violoncello. It is the lowest orchestral instrument, is written in the F clef, and sounds one octave lower than written. On account of its extreme depth, the music should be of a moderate degree of speed. Its compass is two octaves and a half.



Sounds one octave lower than written.

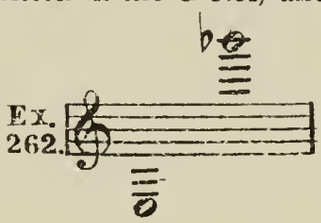
The double-bassoon is essentially a German instrument and is used in many of their scores. There has been an attempt in other countries, where this instrument is unknown, to replace it by the tuba, but this should only be done in case the notes proceed slowly, and the performer should also be instructed to play the part in a subdued manner.

CLARINET.

The Clarinet, from the Italian Clarinetto, signifying a small, clear trumpet, was invented by Denner, of Leipsic, about the year 1690. It was occasionally used by Haydn (1732–1809) in some of his symphonies, but since Beethoven's (1770–1827) time has been universally adopted in orchestral scores of all composers.

Its wooden tube is a little longer and thicker than that of the oboe, and also differs from it in the mouthpiece, which is as long and thick as the tube itself, with a slanting aperture, over which is placed a thin, flat, single reed. The clarinet part is written in the G clef, and its compass is three octaves and a half with all the chromatic intervals.

Ex. 262.

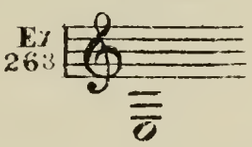


Clarinet in C sounds as written.

In the orchestra there are three kinds of clarinets used, the C, B♭ and A. The C clarinet sounds as it is written, the B♭ clarinet a whole tone lower than written, and the A clarinet a minor third lower than written. Thus it is seen that the B♭ and A clarinets are transposing instruments. The lowest note E sounds E on the C clarinet, D on the B♭ clarinet and C♯ on the A clarinet.

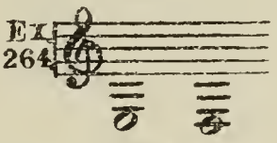
C CLARINET.

Ex. 263.



B♭ CLARINET.

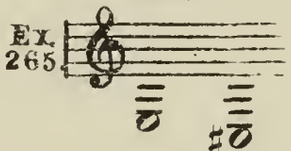
Ex. 264.



Sounds

A CLARINET

Ex. 265.

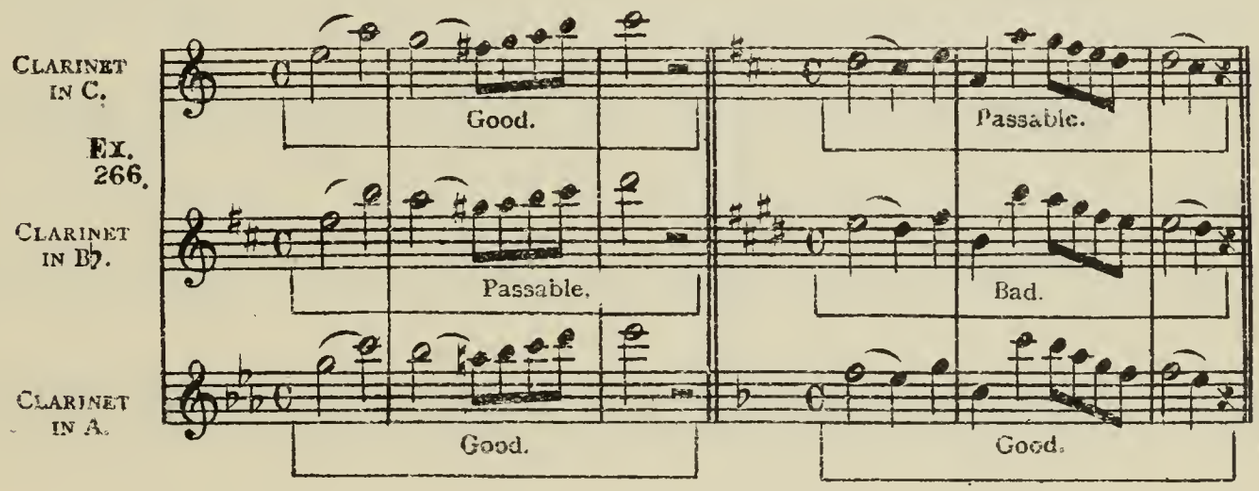


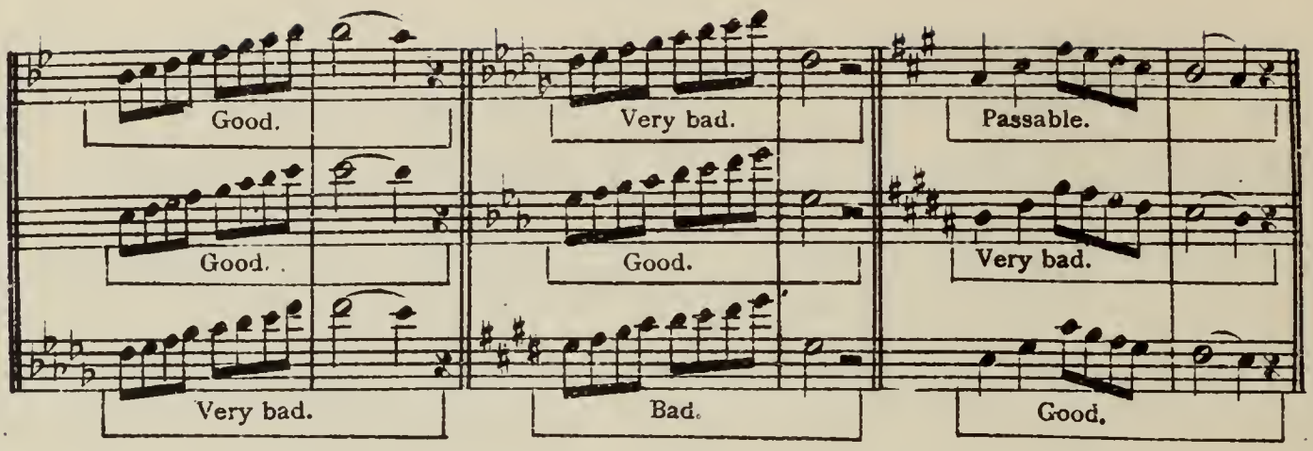
Sounds

Thus if a composition be in B♭ major, the B♭ clarinet is used and the part written in C major. If the piece be in C major, the C clarinet may be used and the part written in C; or the B♭ clarinet may be used and the part written in D major; or the A clarinet may be used and the part written in E♭ major.

The C clarinet has a shrieking, piercing, unpleasant tone, unless exceedingly well played, and it is therefore better to avoid it and substitute either the B♭ or A clarinet, according to the key in which the piece is written. The deeper the instrument, the finer, fuller and softer the tone, hence the reason for the A clarinet being the finest, the B♭ less so, the C hard, and the E♭ clarinet—not heretofore mentioned and which is used only in military bands—shrill and jarring.

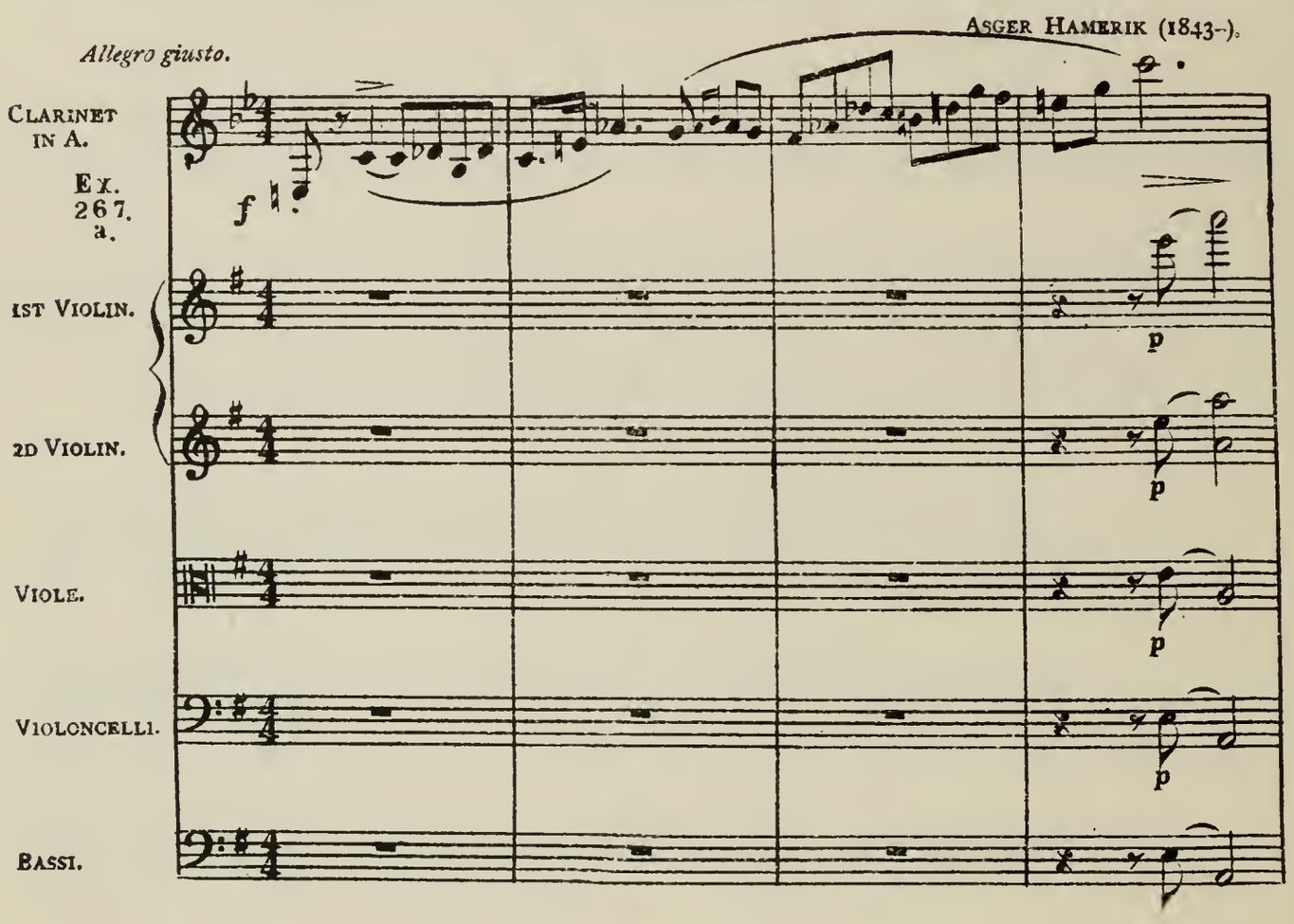
Ex. 266.

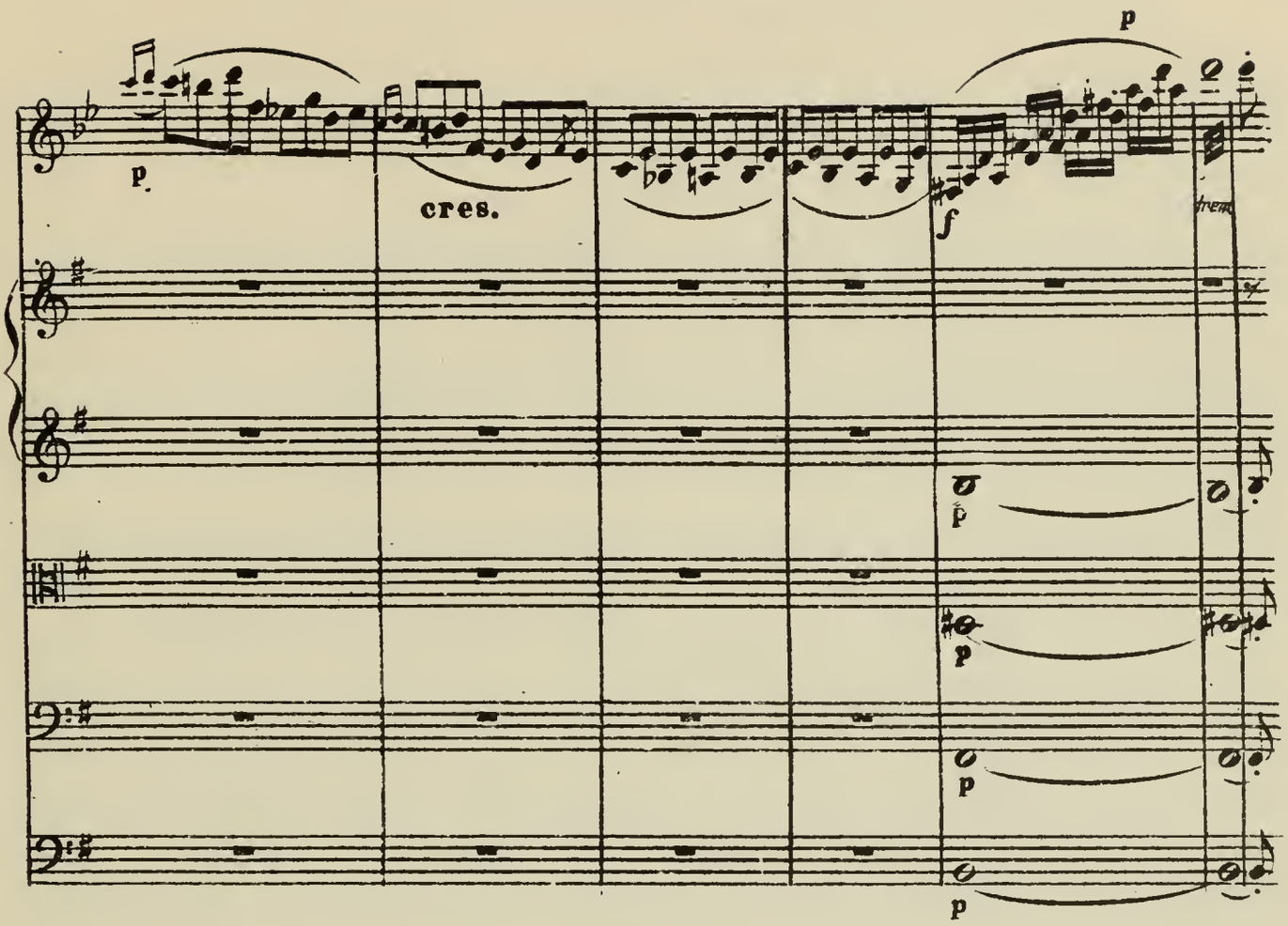




The clarinet has four distincc registers, the lower, the middle, the high and the highest. The low register is of a peculiarly sombre character, the medium is lofty and well suited for arpeggios, the high is clear, and the highest piercing and should be avoided altogether, except in fortissimo passages, with the whole orchestra. It is the instrument whose tone best swells, diminishes and dies away somewhat like the flute, of which it may be considered the bass, and with which it most happily blends. The clarinet is noted for its great facility in execution; quick passages in diatonic or chromatic scales, brilliant arpeggios, sudden skips from a high to a low tone and *vice versa*, are its chief characteristics.

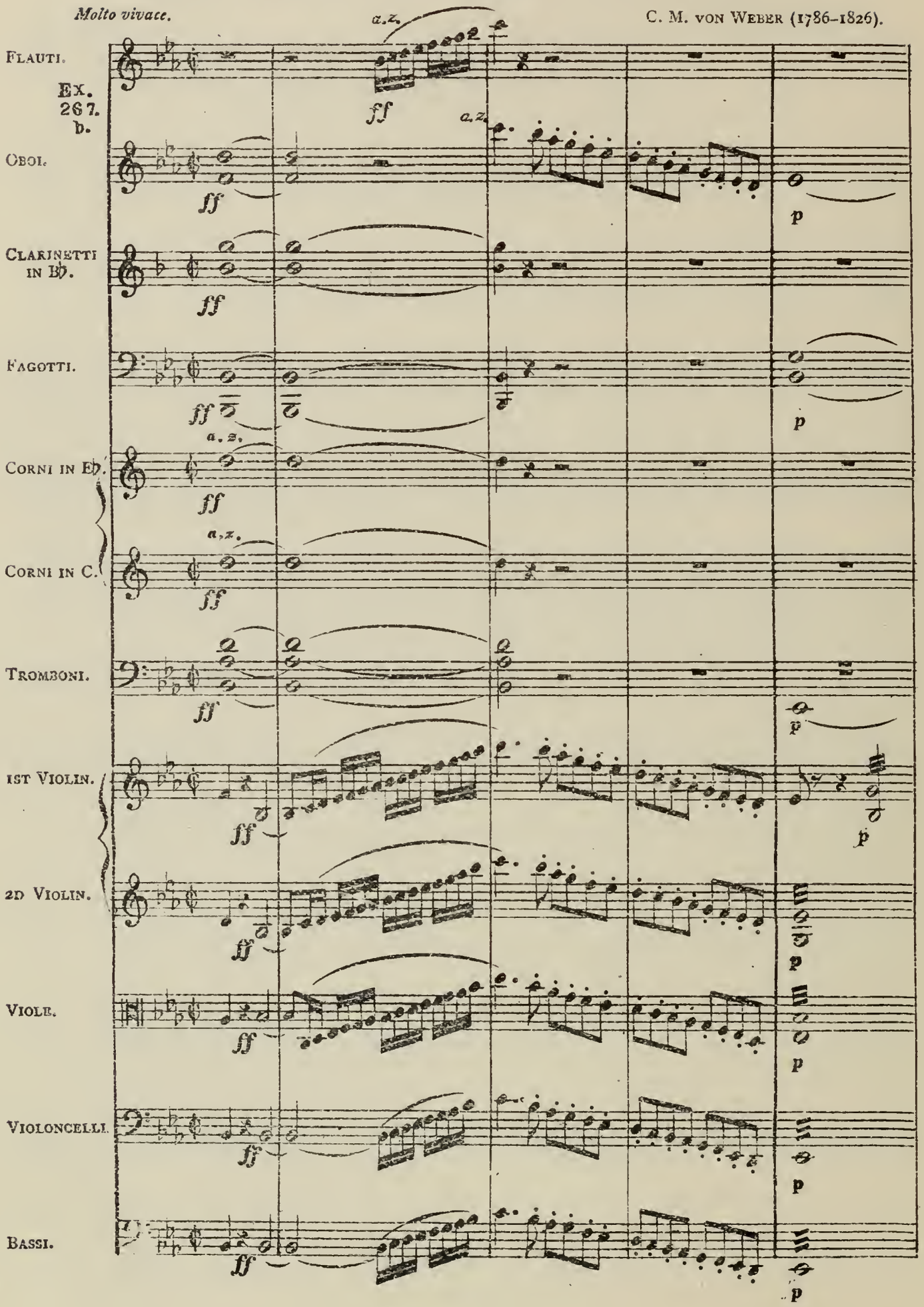
EXAMPLE OF CLARINET SOLO—FROM OPERA WITHOUT WORDS.

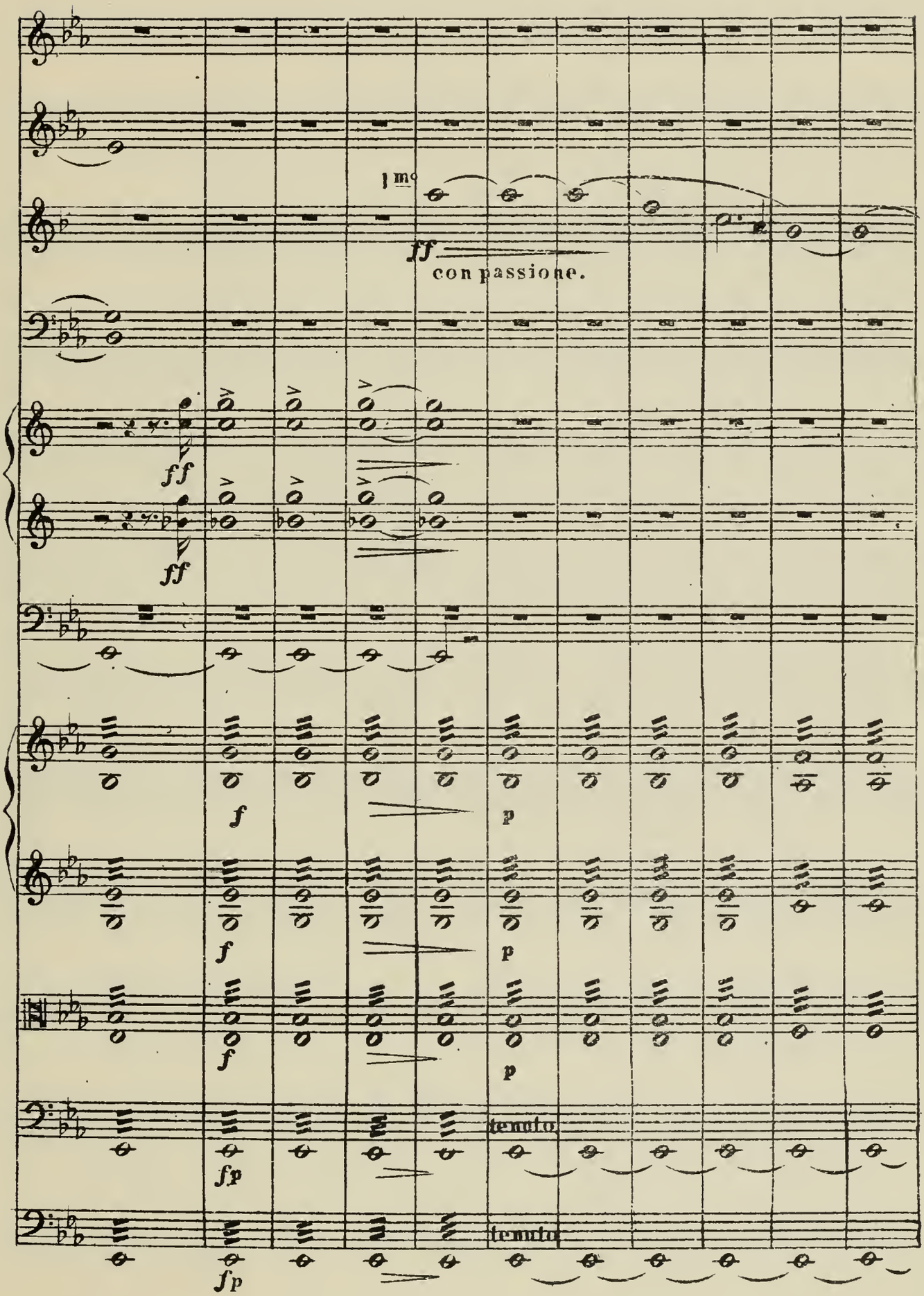


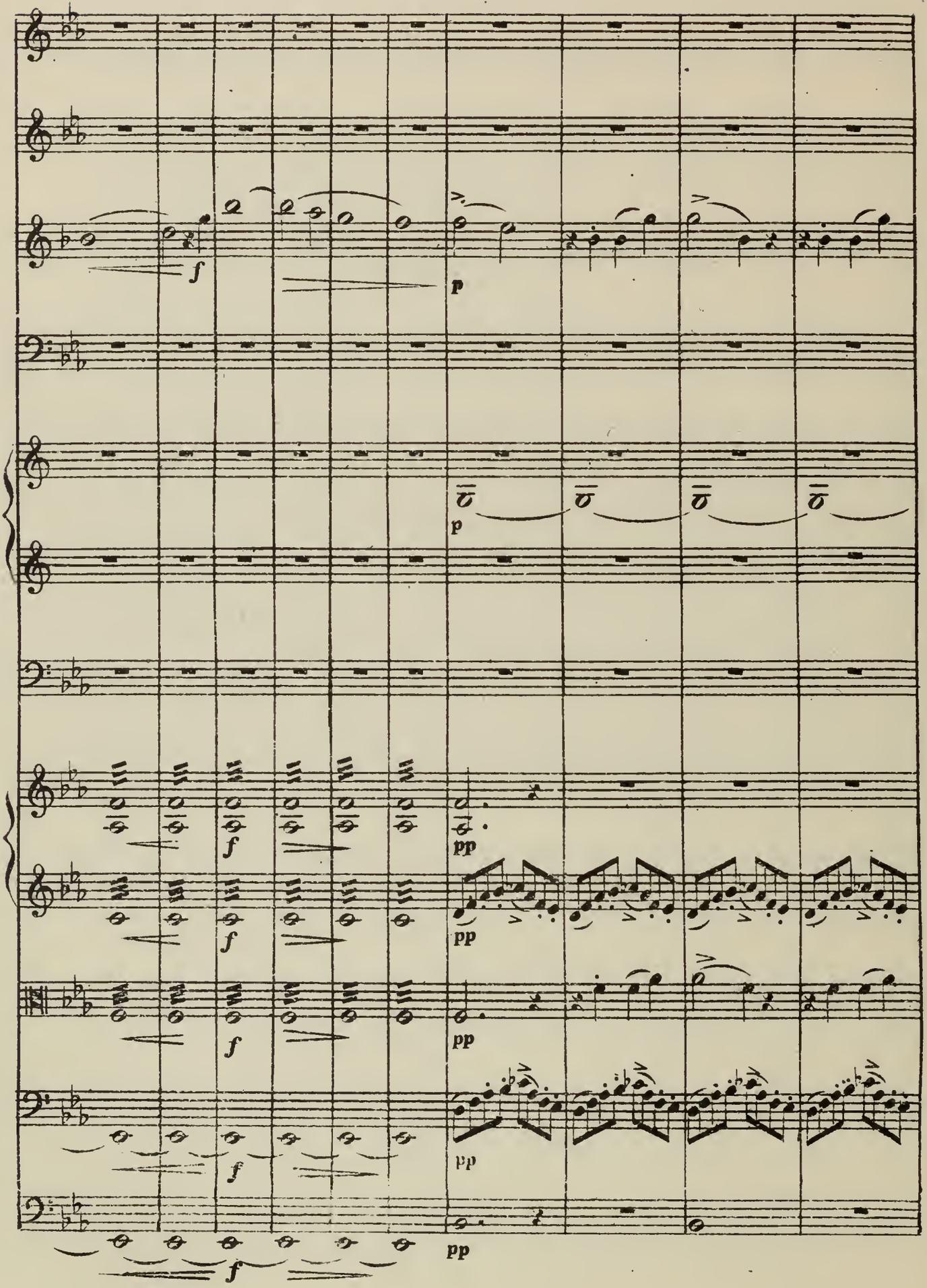

p
cres.
f
p
p
p
p
p

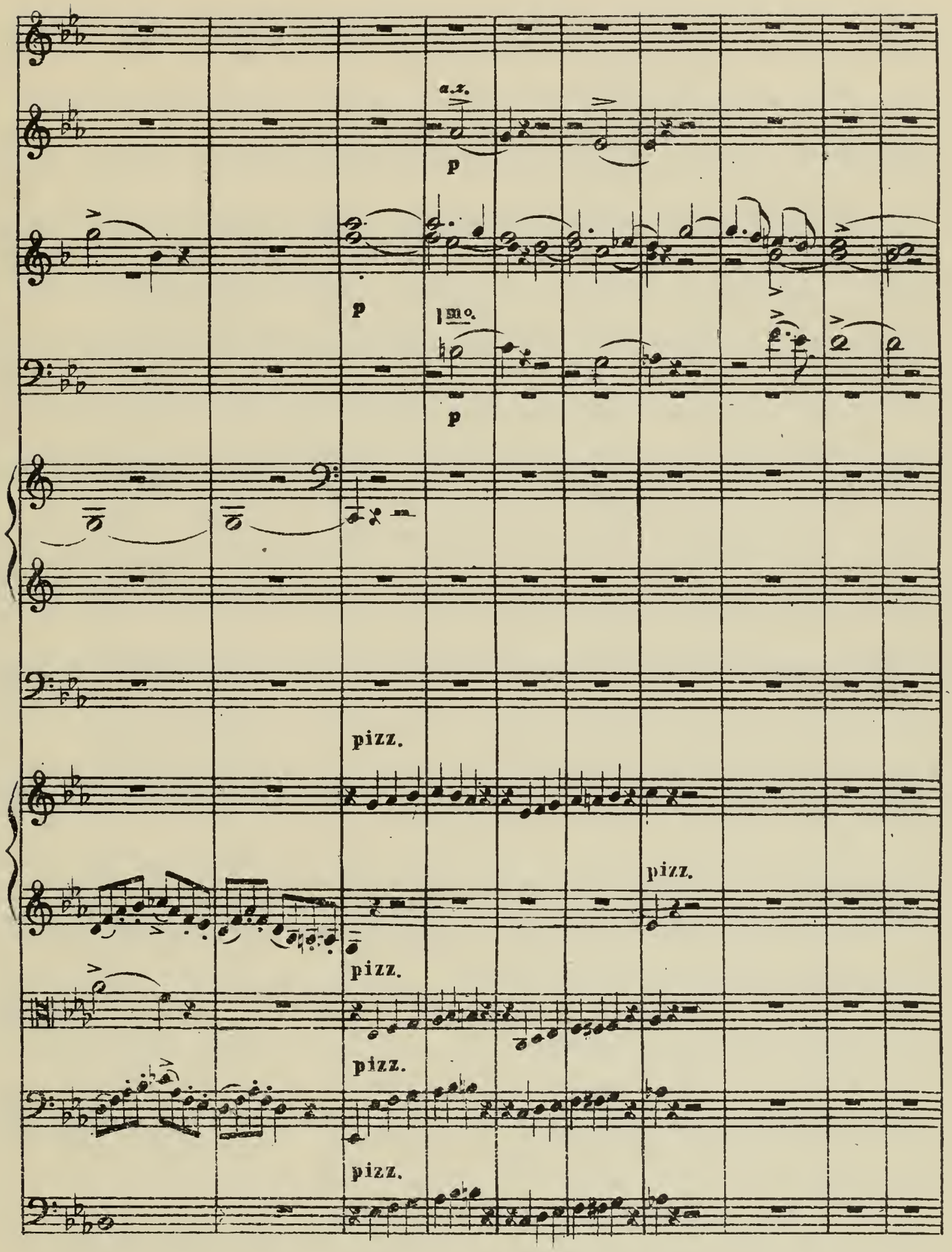
EXAMPLE OF CLARNET SOLO—FROM THE OVERTURE TO THE OPERA FREISCHÜTZ.

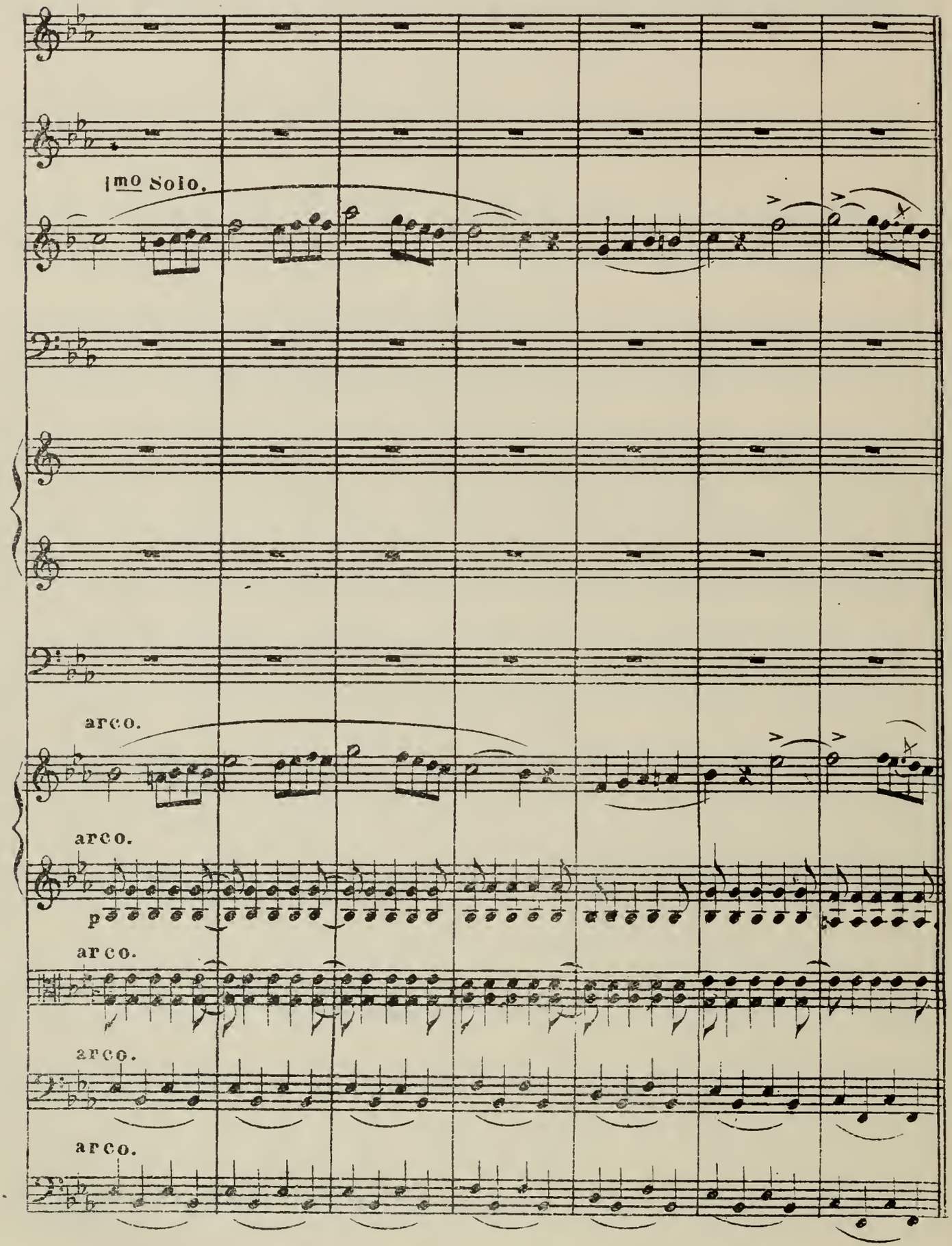
Molto vivace. C. M. VON WEBER (1786–1826).




ff
con passione.
ff
ff
f
p
f
p
f
p
tenuto
fp
tenuto
fp

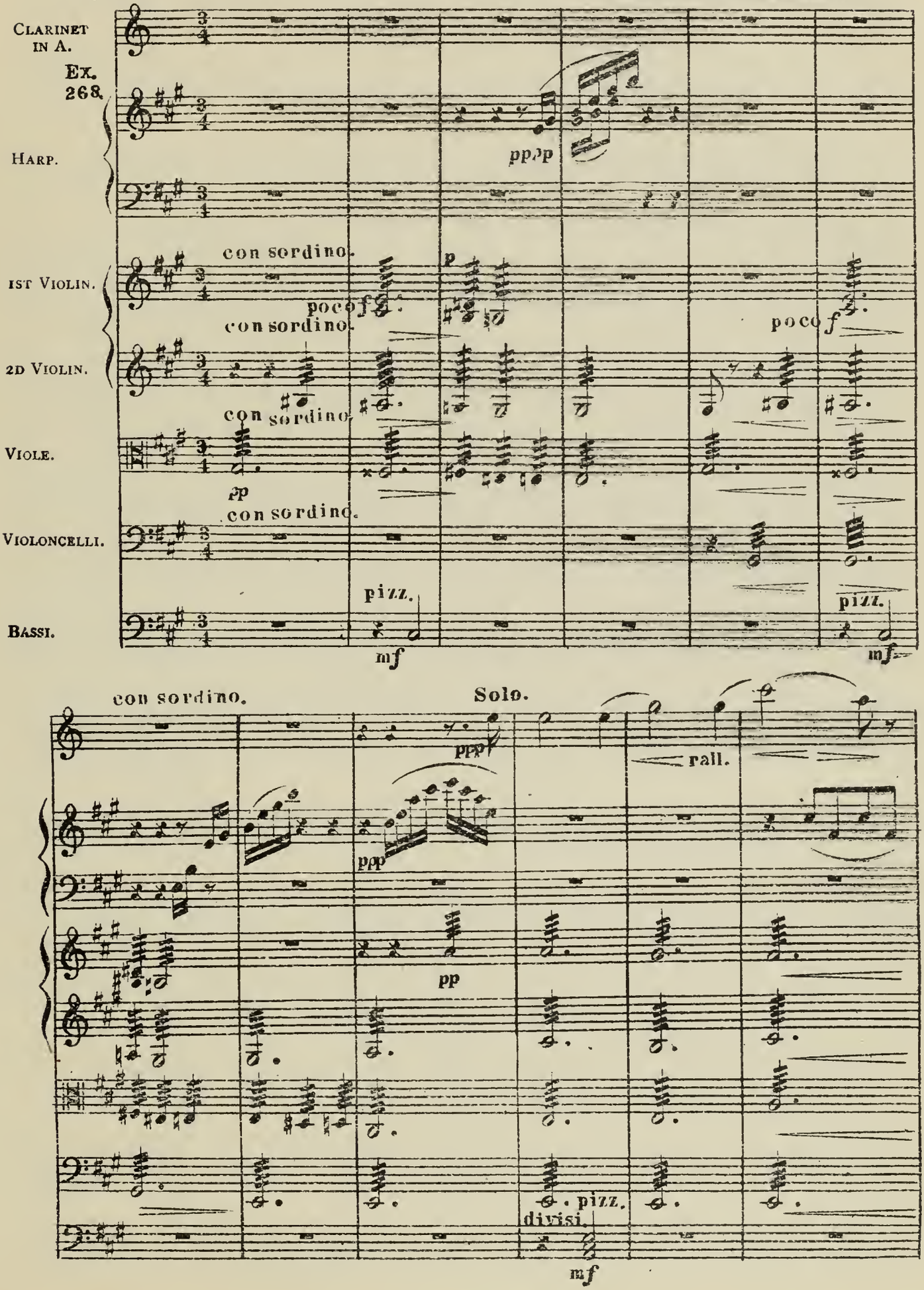

f
p
p
pp
pp
pp
pp
pp
f
f
f
f
f

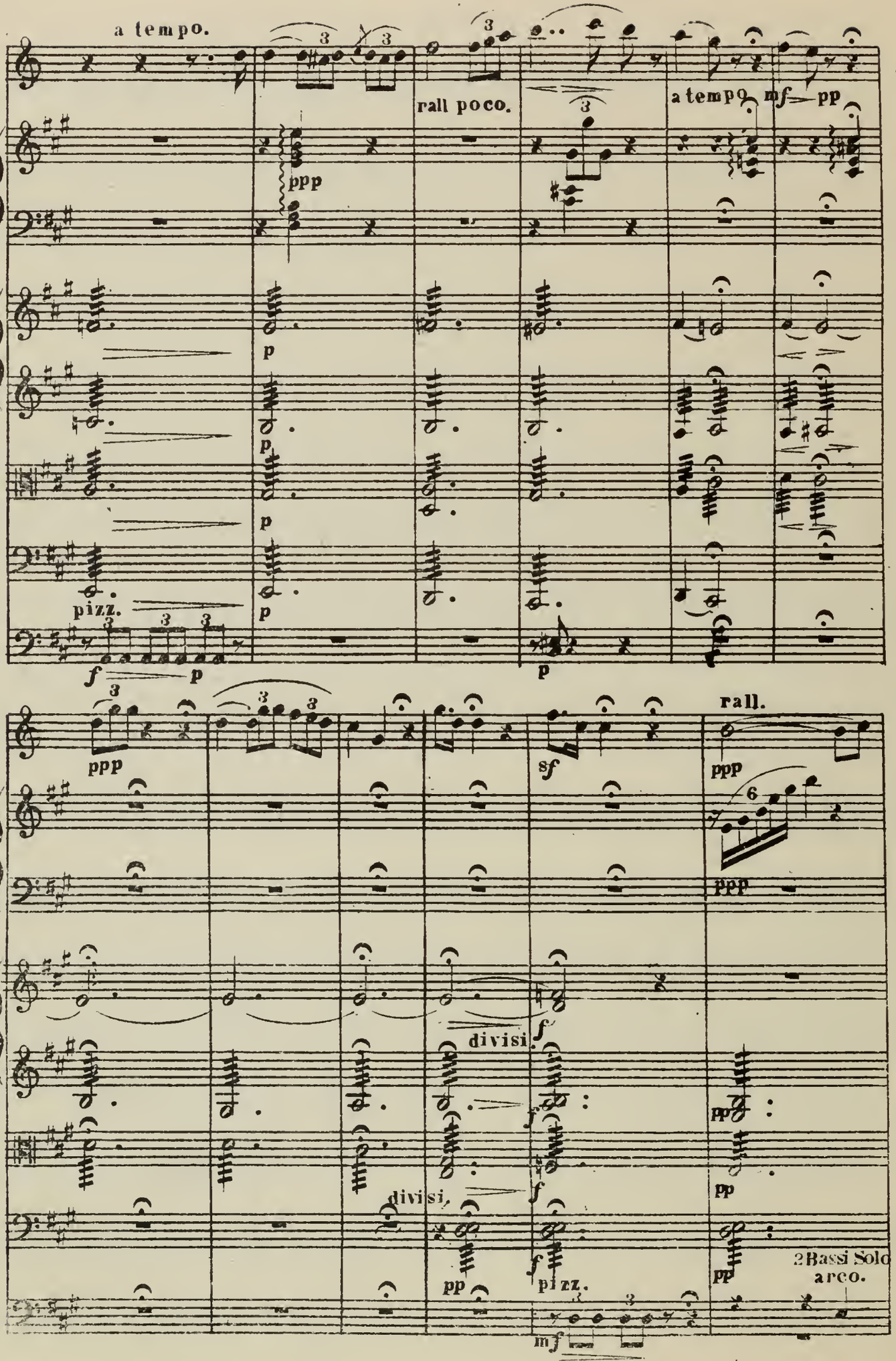

a.z.
p
p
m o.
p
pizz.
pizz.
pizz.
pizz.
pizz.

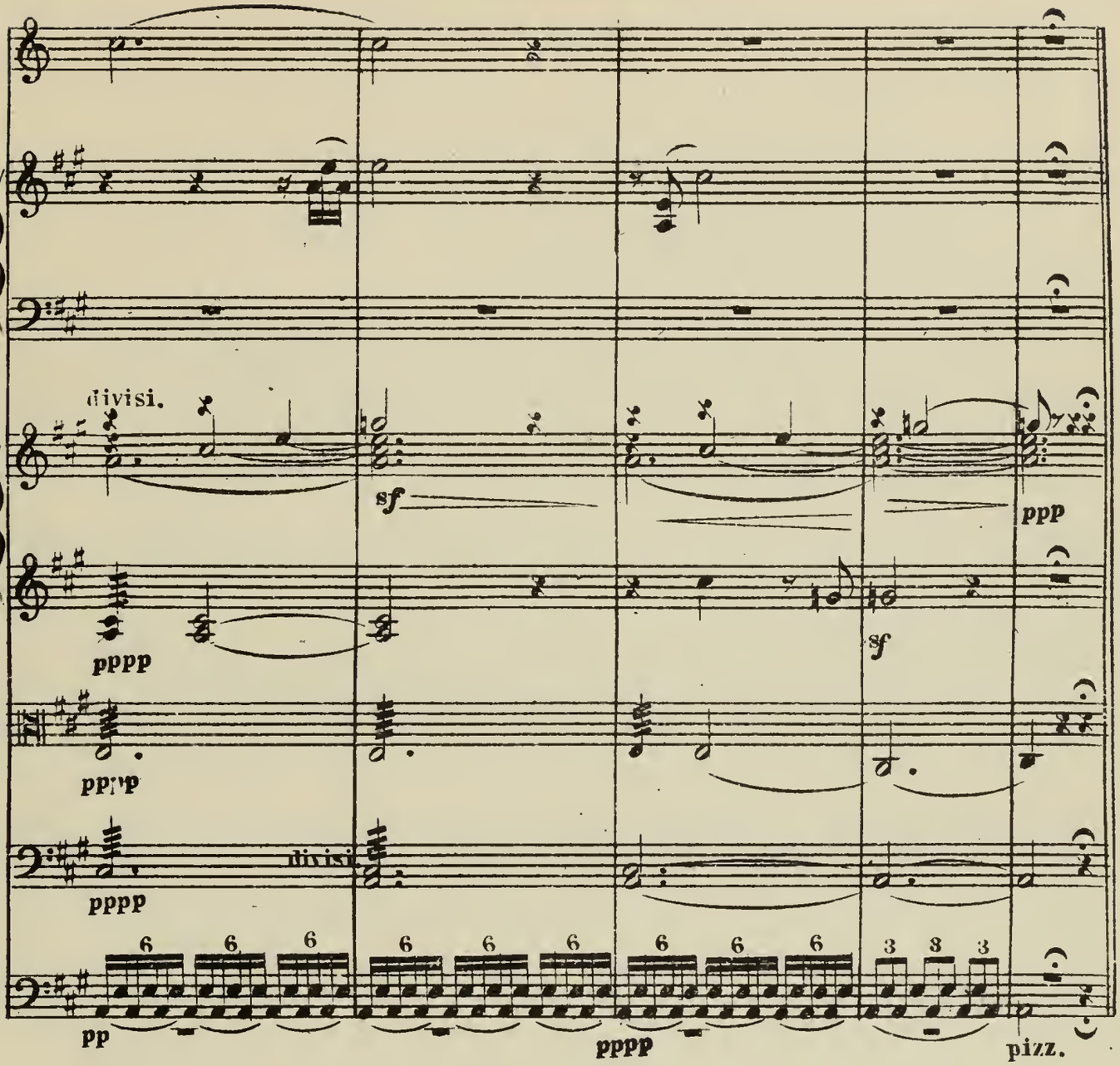

1mo Solo.
arco.
arco.
p
arco.
arco.
arco.

EXAMPLE OF CLARINET SOLO—FROM THE MONODRAMA LELIO.

Larghetto. HECTOR BERLIOZ (1803–1869).




a tempo.
rall poco.
a tempo
mf
pp
ppp
p
pizz.
f
rall.
sf
divisi.
2 Bassi Solo
arco.
mf

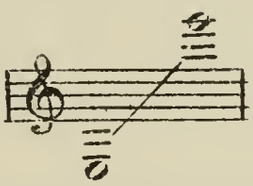
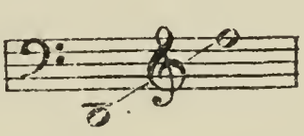


ALTO CLARINET.

The Alto Clarinet, occasionally used in the orchestra, has a still more beautiful tone than the clarinet in A. It is usually in F and written in the G clef with the same compass as the other clarinets, see Example 262; but, being in F, the tones sound consequently a perfect 5th lower than written.

BASS-CLARINET.

The Bass-Clarinet in B♭ is a transposing instrument. It is written in the G clef and sounds a 9th below the real notes or an octave below the B♭ clarinet. Its compass is as follows:

Written Ex. 269.  Sounds Ex. 270. 

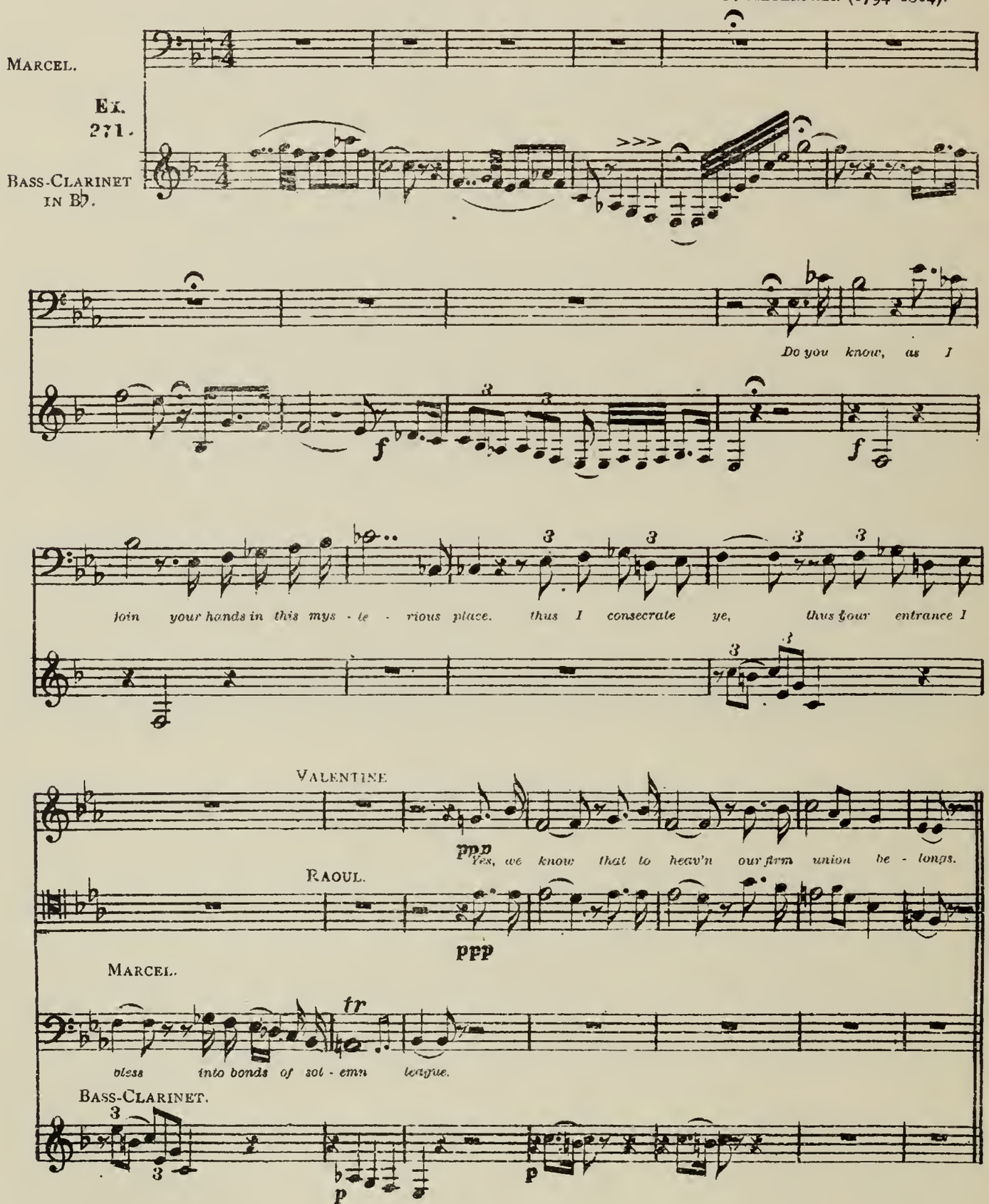
Its tone-color is most beautiful, of a calm, solemn and sacerdotal character. The best tones are the lower ones, which should, however, not be used in rapid passages on account of the slowness of their vibration.

It may here be remarked that it would be well if symphony composers could be persuaded to introduce more bass instruments in their scores. The English horn, the bass-clarinet, the double-bassoon and the tuba are instruments essentially necessary to equalize that weak spot which is found in the lowest tones of an orchestra in any score of a Beethoven construction.

The following is a fine example of a passage for bass-clarinet taken from the terzet in the 5th act of the opera The Huguenots.

EXAMPLE FOR BASS-CLARINET SOLO—FROM THR OPERA THE HUGUENOTS.

G. MEYERBEER (1794–1864).

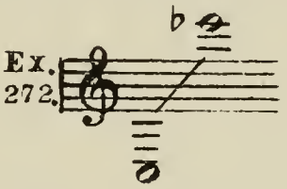


BASSET HORN.

Basset Horn, in Italian *corno di bassetto*, is the tenor clarinet, and resembles it in shape but for a small brass bell-like mouth which prolongs the lower end.

It is written in the G clef, has a compass of over three octaves with all chromatic intervals, and is a transposing instrument, its tones sounding a perfect 5th lower than written.

Ex. 272.



Sound a perfect 5th lower than written.

The basset horn was in use during the latter part of last century, thus Mozart (1756–1791) has employed it in his scores. That it should be neglected at the present day is to be regretted, as it belongs to that class of deep-toned, mellow instruments which are so much needed in the modern orchestra.

BRASS INSTRUMENTS.

Any metal tube of a certain conical form, when blown into, will sound a key-note whose pitch varies according to the length and size of the tube. As soon as the tonic is found the third, fifth, minor seventh, octave, ninth, tenth, and twelfth can easily be produced by the natural resonance of the harmonic divisions of the tube. These tones, of a clear and open quality, are called *open* tones. Additional chromatic tones may on some tubes be obtained by closing more or less the tube's lower opening with the hand, and such tones, of a muffled sound, are therefore called *closed* tones.

During the latter part of this century the various modern brass instruments, not possessing slides, have been furnished either with valves or pistons in order to be capable of producing open tones throughout the scale, whether diatonic or chromatic.

The compasses of orchestral brass instruments, treated in the following pages, have been limited to the notes which are absolutely safe to write. The extreme and hazardous low and high tones, difficult to produce, have been omitted.

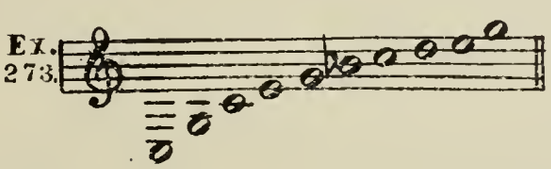
FRENCH HORN.

The French Horn—Italian, singular *corno*, plural *corni*—is a wind instrument consisting of a long brass tube twisted into several circular folds gradually increasing in diameter to the bell from which the tone issues. A portion of the tube can be removed, and this piece is called a crook. The mouth-piece can also be detached. The instrument is held to the right of the performer.

The French horn was introduced into the orchestra about two hundred years ago, and possessed a large number of movable crooks which rendered its pitch high or low at pleasure, by altering the natural key of the horn into the key of the crook used.

The first horn player had a *small* mouth-piece on his instrument in order to produce the high tones with facility, and the second horn player had a *large* mouth-piece in order to produce the deep tones with ease. The part was always written in C major, and the key of the crook to be used indicated by the composer in the score. The French horn is, therefore, a transposing instrument whenever crooks are used. It is written in the G clef and its compass of natural open tones is as follows:

Ex. 273.



Corno in low C sounds one octave lower than written.

Corno in high C sounds as written; in high B♭ sounds a 2d lower; in high A sounds a minor 3d lower; in high G sounds a perfect 4th lower; in F sounds a perfect 5th lower; in E sounds a minor 6th lower; in E♭ sounds a major 6th lower; in D sounds a minor 7th lower; in D♭ sounds a major 7th lower; in low C sounds one octave lower; in low B♭ sounds a major 9th lower; in low A sounds a minor 10th lower.

The following example shows the pitch of the various crooks of the French horn:

Ex. 274.

Corno in high C sounds as written.

Corno in high B♭ sounds a 2d lower.

Corno in high A sounds a minor 3d lower.

Corno in high G sounds a perfect 4th lower

Corno in F sounds a perfect 5th lower.

Corno in E sounds a minor 6th lower

Corno in E♭ sounds a major 6th lower.

Corno in D sounds a minor 7th lower.

Corno in D♭ sounds a major 7th lower.

Corno in low C sounds one octave lower

Corno in low B♭ sounds a major 9th lower.

Corno in low A sounds a minor 10th lower.

Generally, the first horn player would not descend lower than Ex. 275 nor the second horn player ascend higher than Ex. 276. Some chromatic tones were produced by inserting the hand, more or less, into the bell of the instrument.

The following closed tones Ex. 277. as in the passage Ex. 278. also Ex. 279. though weak, were occasionally used. In solos, many other closed tones were introduced, but, being artificial, sounded dull and imperfect.

In scores of past composers we frequently find French horns with crooks in different keys; this was done in order to obtain the greatest number of open tones. For example, if the composition was in the key of D minor, generally two horns with D crooks, and two horns with F crooks would be used. The French horn possesses a noble and melancholy tone, eminently adapted for solo; but it has nevertheless mostly been used in a subordinate manner, furnishing, by long sustained tones, sonorousness to the orchestra.

EXAMPLE FOR FOUR FRENCH HORNS AND TWO BASSOONS—FROM THE PRELUDE TO THE FOURTH ACT OF THE OPERA TOVELILLE.

ASGER HAMERIK (1843–).

Ex. 280.

Andante cantabil expressivo.

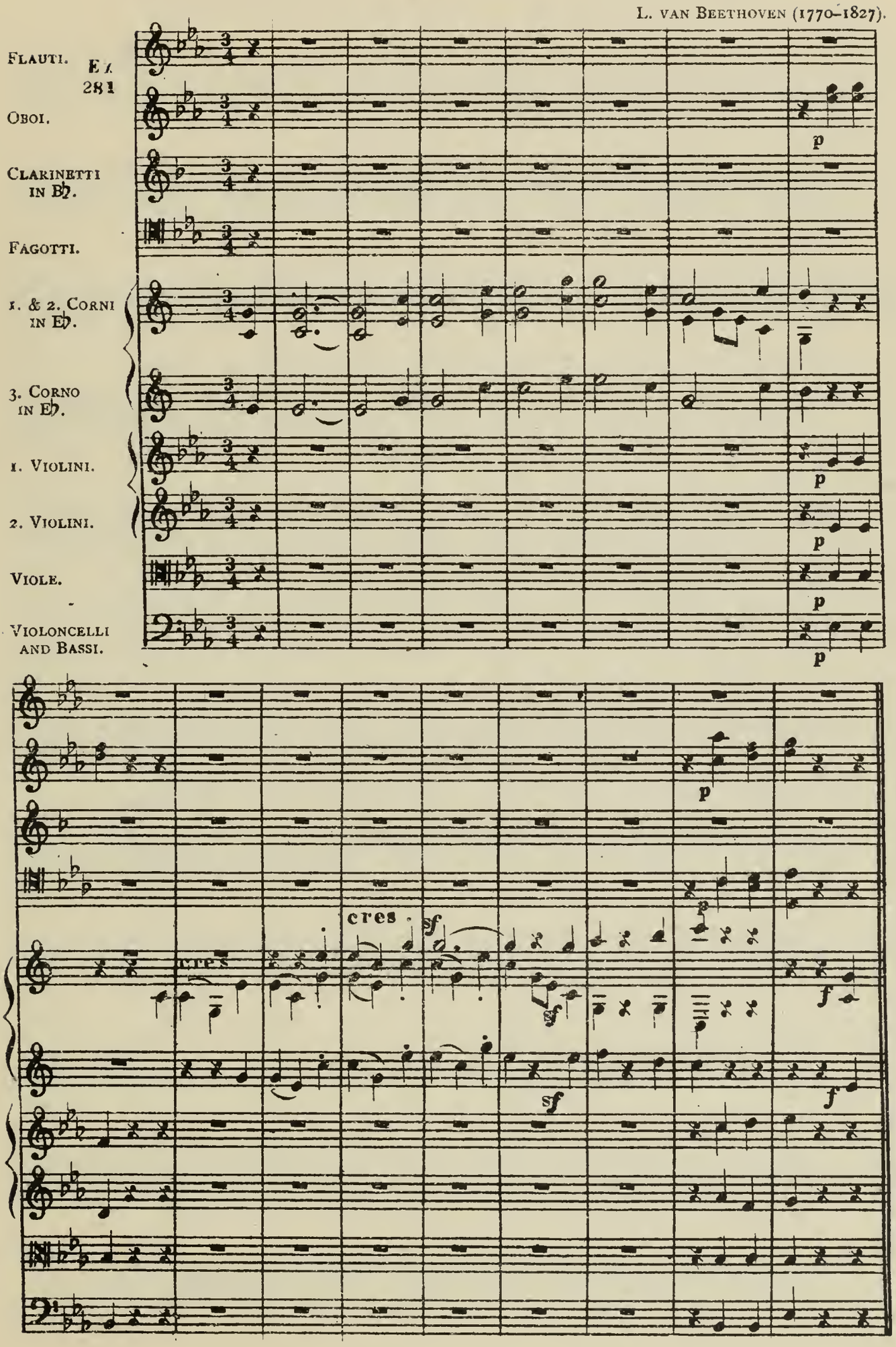
CORNI IN F.

FAGOTTI.

p ppp ppp ppp ppp

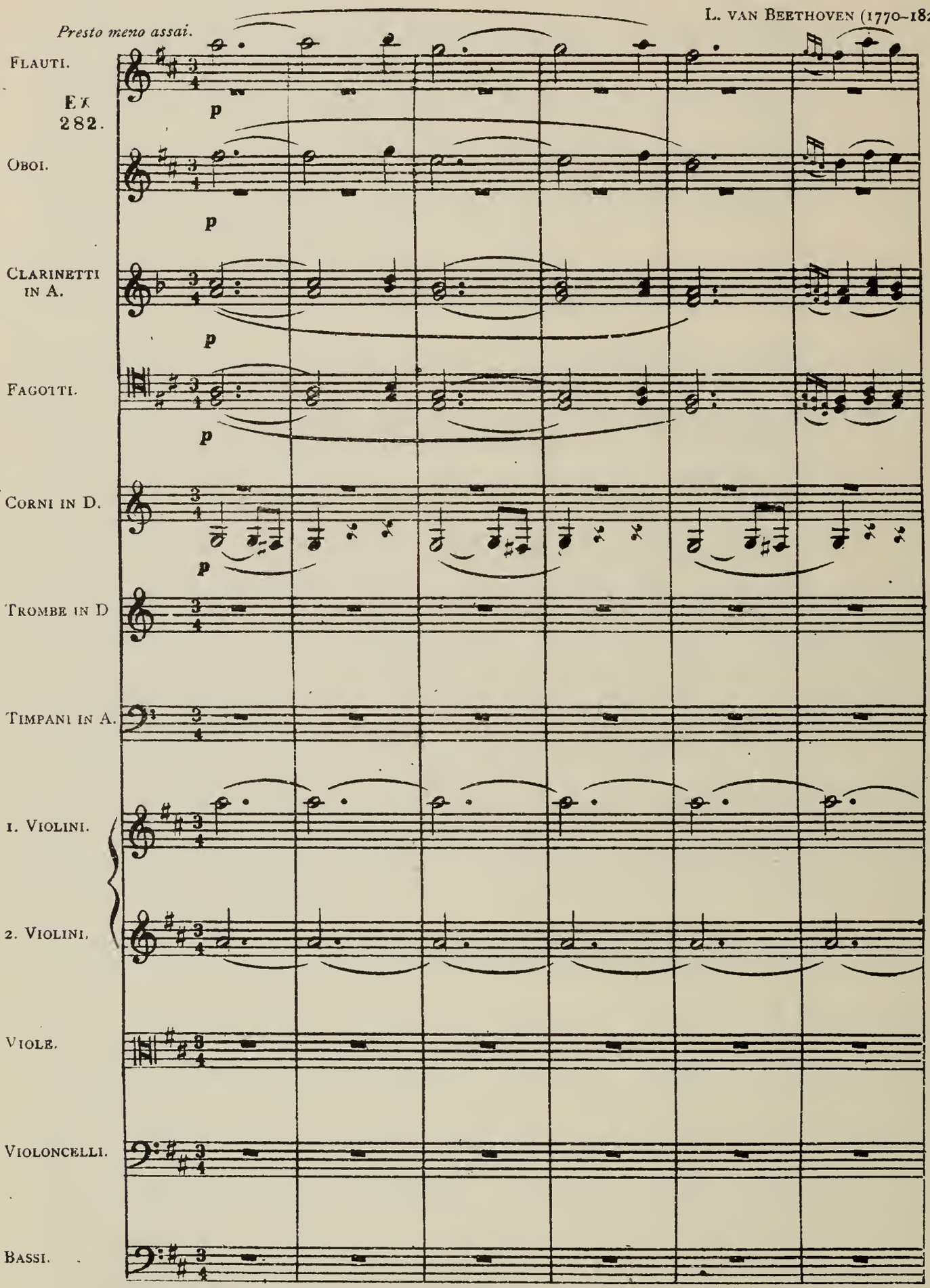
EXAMPLE FOR THREE HORNS—FROM THE SCHERZO OF THE EROICA SYMPHONY.

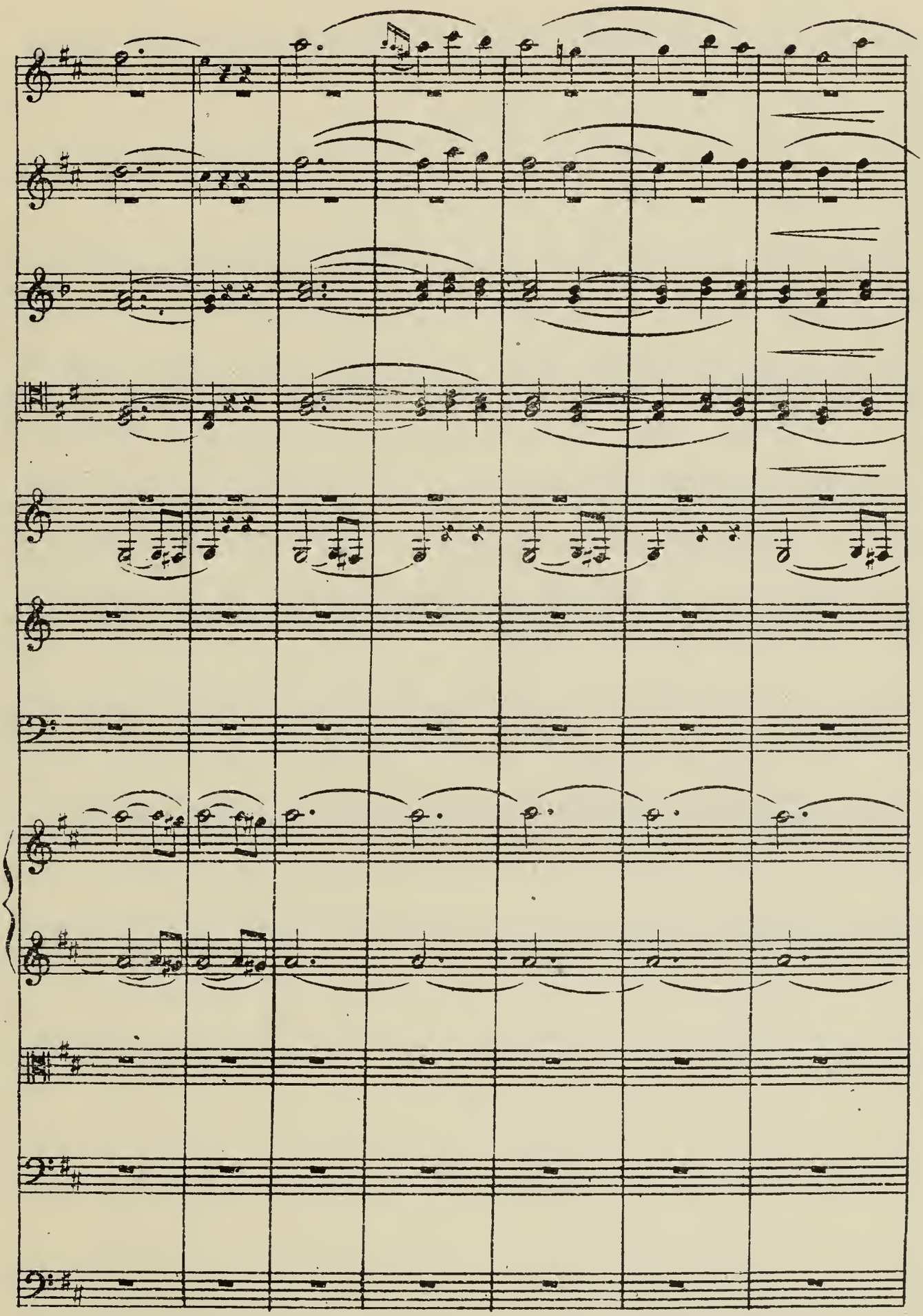
L. VAN BEETHOVEN (1770–1827).

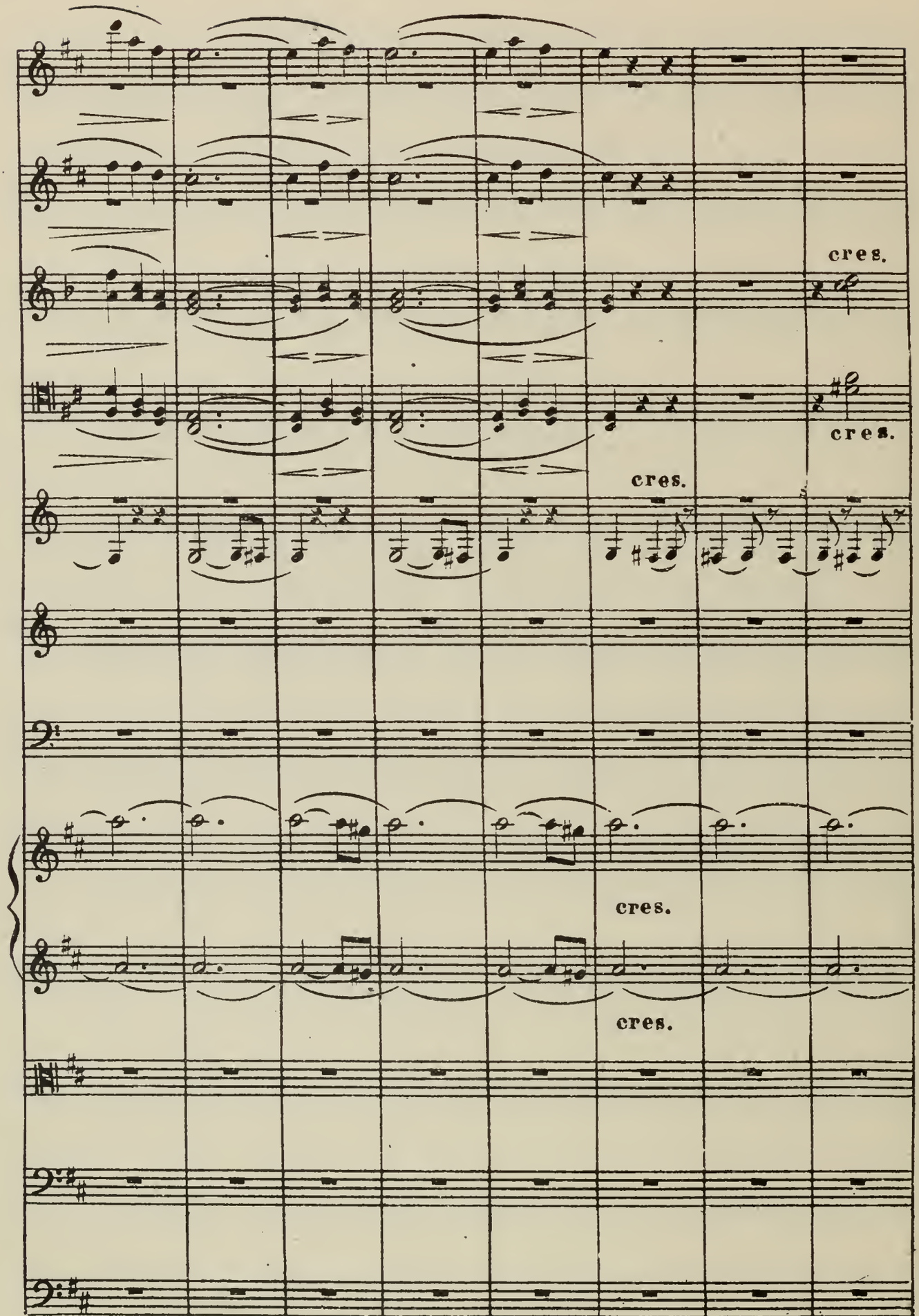


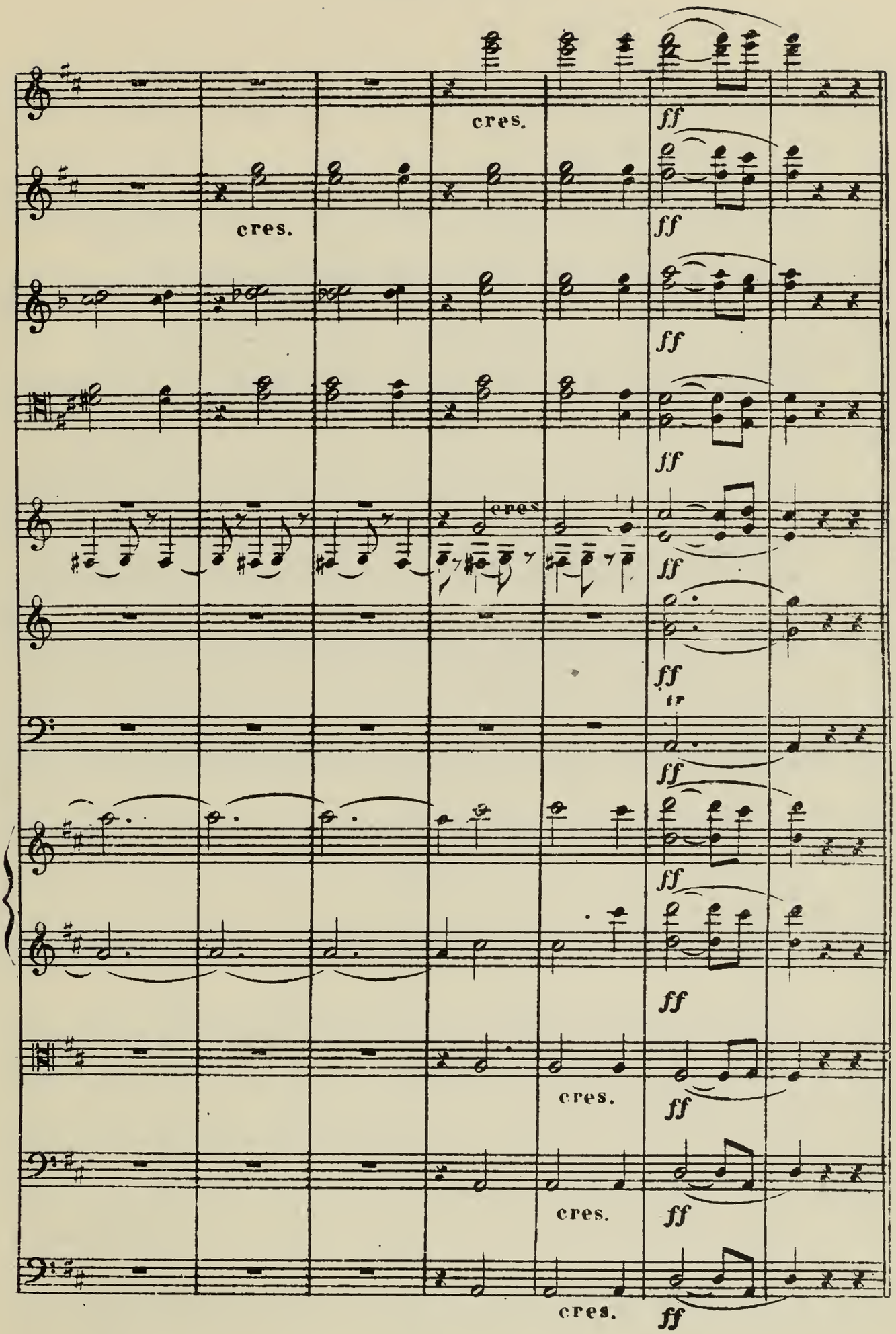
EXAMPLE OF HORN EFFECT—FROM THE SCHERZO OF THE SYMPHONY IN A MAJOR.

L. VAN BEETHOVEN (1770–1827).






cres.
cres.
cres.
cres.
cres.


cres.
ff
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ff
ff
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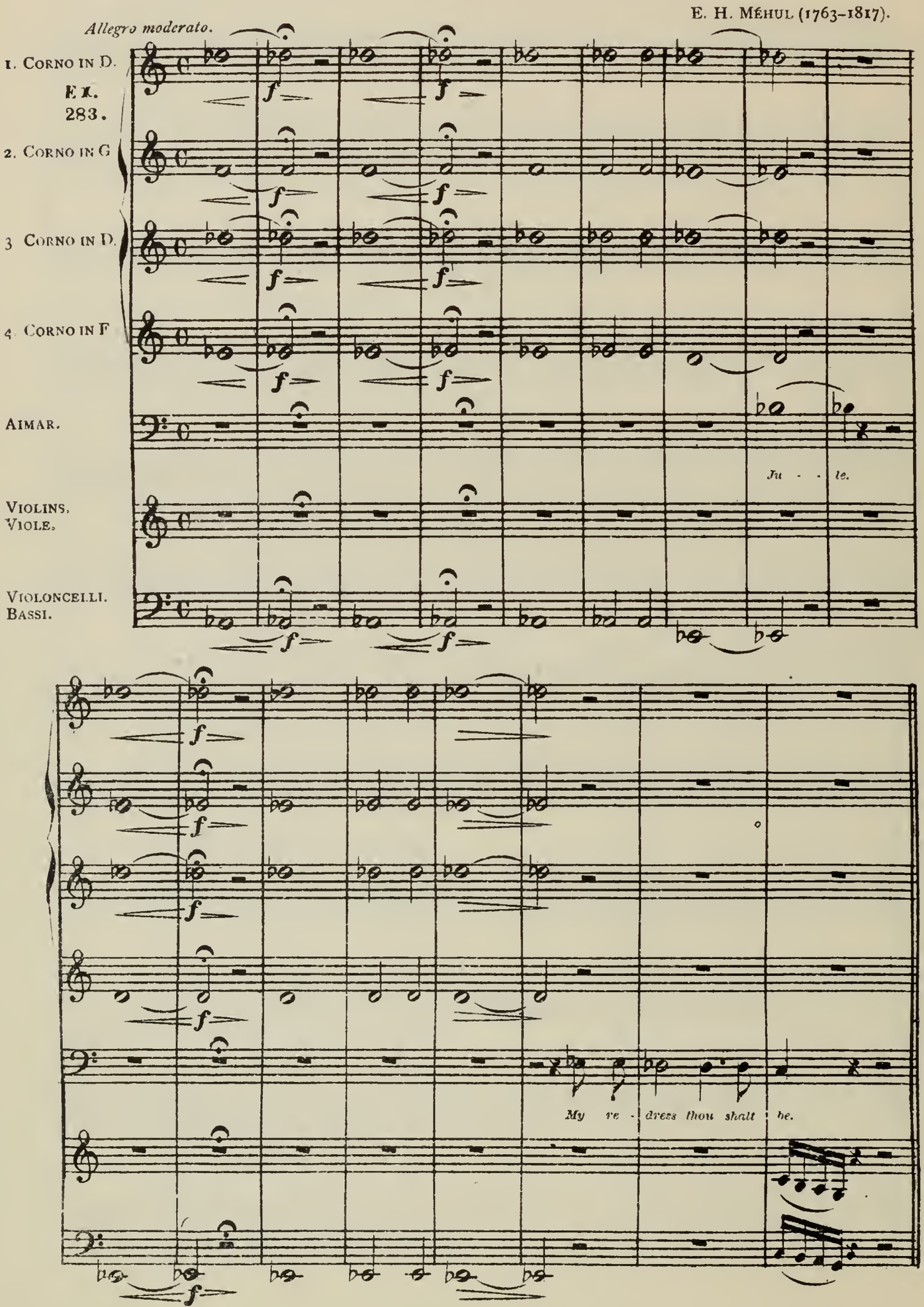
ff
ff
tr
ff
ff
ff
cres.
ff
cres.
ff
cres.
ff

EXAMPLE OF FOUR HORNS WITH CROOKS IN DIFFERENT KEYS—FROM THE OPERA PHROSINE ET MÉLIDORE.

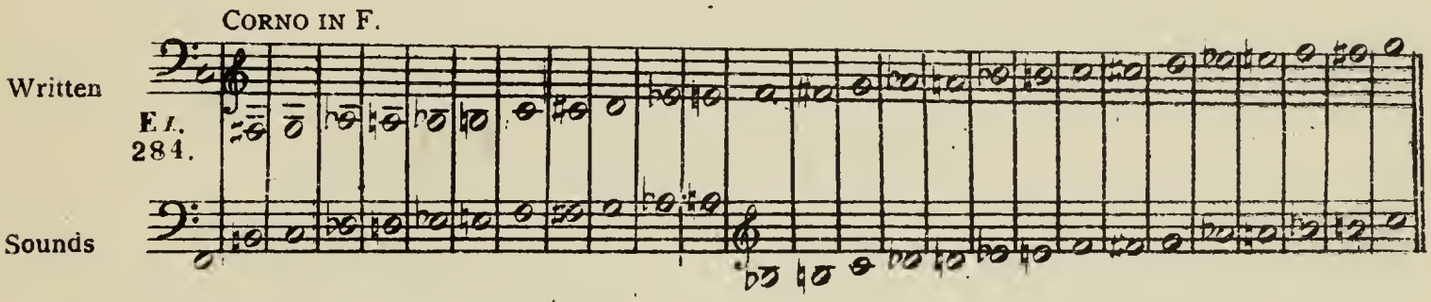
E. H. MÉHUL (1763–1817).



THE PRESENT NORMAL FRENCH HORN.

In nearly all orchestras of the present day, the French horns used are in F with three valves and no additional crooks. This feature, recently introduced, has furnished the French horn with a chromatic scale of open tones, but has also to a great extent modified and even impaired its original warm tone color.

The following is the compass of the F horn as it is written and as it sounds:

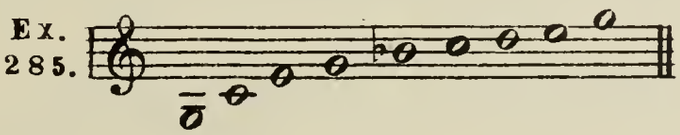


All the tones sound open by means of the three valves, whose action instantaneously changes the key of the instrument. If the performer press down the first valve the F horn is transposed into B♭, if he press down the first and second valves together, the horn is changed into A♮; if the second valve alone, into B♮, etc.; whence it follows that a complete chromatic scale in open tones can be formed. However, muffled or closed tones can also be had by introducing the hand more or less into the bell, and these are indicated by the French sentence *bouchez le son*—muffle the tone. It is thus possible, upon a French horn with valves, after having played a passage in open tones, to repeat it in muffled tones, like a distant echo. Sordino—mute—a stopper introduced into the bell, gives the tones a distant, veiled character, though not differing enough from the muffled sounds produced by the hand to warrant its general use.

Composers can now safely employ the whole chromatic scale in open tones within the compass of the F horn, see Example 284. They may mark in their scores: Corni in F, E, E♭, D, D♭, and C, according to need, and leave all transposition to the players. Corni in high G, A, B♭ and C should be avoided, as they are more difficult to read and transpose for the F horn. It is best, however, always to use corni in F whenever the composition is in the keys of one sharp, one, two, three flats or C major, and write in course of the music the wanting signatures as accidentals.

TRUMPET

The Trumpet, from the Italian *tromba*, plural *trombe*, is an oblong folded tube with a movable mouthpiece. The trumpet is generally made of brass, its compass about two octaves, and it is written in the G clef. The following will show its natural open tones:



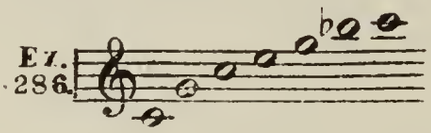
The trumpet part is always written in C, and like the French horn, adapted to other keys by means of crooks. The above scale will, if the trumpet be in D, sound a 2d higher than written; if in E♭, a minor 3d higher, and if in C will sound exactly as written. Past composers used this instrument in unison with the French horns and timpani to mark the accent in forte passages. However, the trumpet can also be employed with great effect in piano passages, and we find it first treated in this way by Gluck (1714-1787).

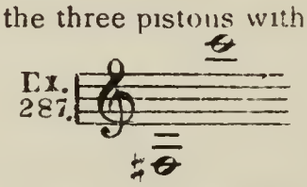
Recently the trumpet in F has been supplied with valves, in order to produce the chromatic scale in open tones. Modern composers have taken advantage of this, and write now any chromatic note within the limit of the two octaves, see Example 285. Trombe in C, D♭, D, E♭, E or F, according to the key of the composition, are used in their scores. The quality of the trumpet tone is brilliant and noble, and suits warlike ideas, songs of triumph, cries of vengeance; in fact, any lofty, energetic,

grand or tragic sentiment. Sordino—mute—a stopper put into the bell, changes the whole character of the trumpet and gives it a closed, veiled and distant tone, which may occasionally be employed with great effect. In most orchestras of the United States of America, the trumpets have been replaced by the B♭ and A cornets with three pistons. Of course, this is to be regretted, as the cornet tone is of inferior quality.

CORNET.

The Cornet, from the Italian *cornetto*, plural *cornetti*, is a small kind of trumpet, its tube is shorter, its mouthpiece thinner, and the quality of its tone less ringing, less brilliant and noble. It is written in the G clef, has a compass of about two octaves, and the natural tones of its tube are as follows

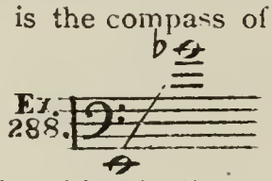
Ex. 286.  Cornet in C sounds as written

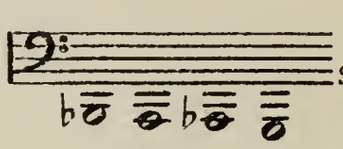
The mechanism of the three pistons with which it is furnished allows of its giving all the chromatic intervals from Ex. 287.  There are cornets in all keys, but those in B♭ and A are in general use, and read the same way as clarinets in B♭ and A. Like the trumpet, it can be played with sordino.

TROMBONE

The Trombone, plural Tromboni, is a brass instrument somewhat similar to the trumpet in shape, but longer. It is furnished with a slide by which the double tube can be instantaneously lengthened or shortened with a single motion of the player's arm. The variations of the length of the tube completely change the key of the instrument, whence it follows that the trombone possesses all the tones resulting from the natural resonance of its tube in every position, thus producing a complete chromatic scale. At the present day there is a tendency to furnish the trombone with valves and to do away with the slide. The system of valves adapted to the trombone gives it more facility but less correctness of intonation, and also detracts from its nobleness and grandeur.

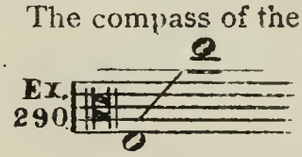
The trombone is a non-transposing instrument, and sounds as it is written. There are three kinds of trombone, the alto, tenor and bass, all of which are found in Germany. The French and American, however, know only of the tenor trombone, and as this has a large compass of deep and high tones, it can fairly be considered as the best of three. We find in German scores the trombones written upon three separate staves, in alto, tenor and bass clefs; in French scores on one or three staves, all in the tenor clef. It is, however, best to write all three upon one staff in the bass clef, as some players of the present day cannot read the alto and tenor clefs, whilst they all read the bass clef with ease. The following is the compass of the tenor or standard trombone with all chromatic intervals:

Ex. 288.  Sound as written.

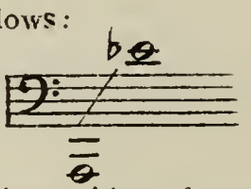
The following are pedal-notes, produced by the lips only Ex. 289.  Sound as written.

Hector Berlioz (1803–1869) makes use of these in the March to Judgment in his Symphonie Fantastique.

The compass of the alto trombone with chromatic intervals is as follows:

Ex. 290.  Sound as written.

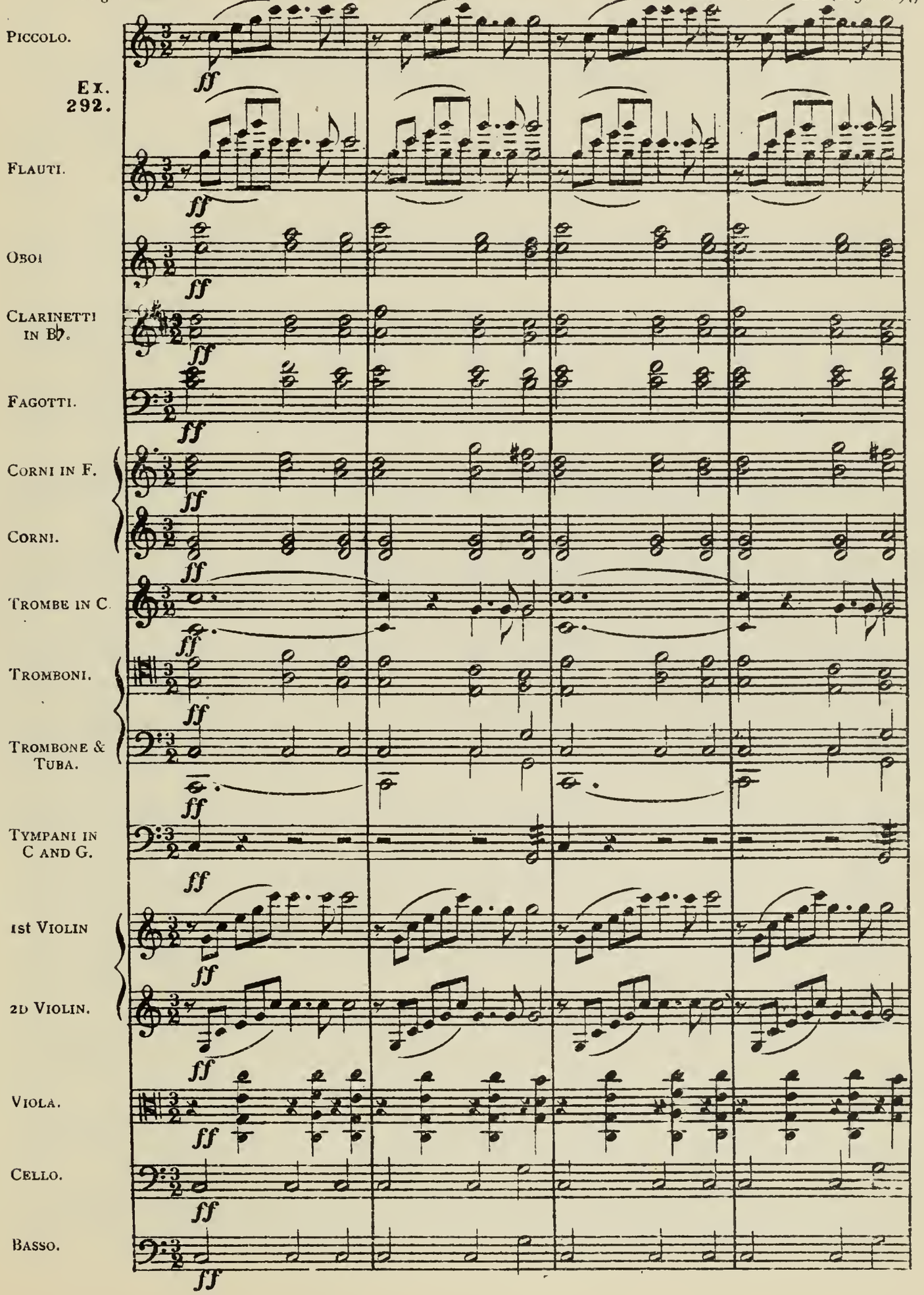
and of the bass trombone with chromatic intervals:

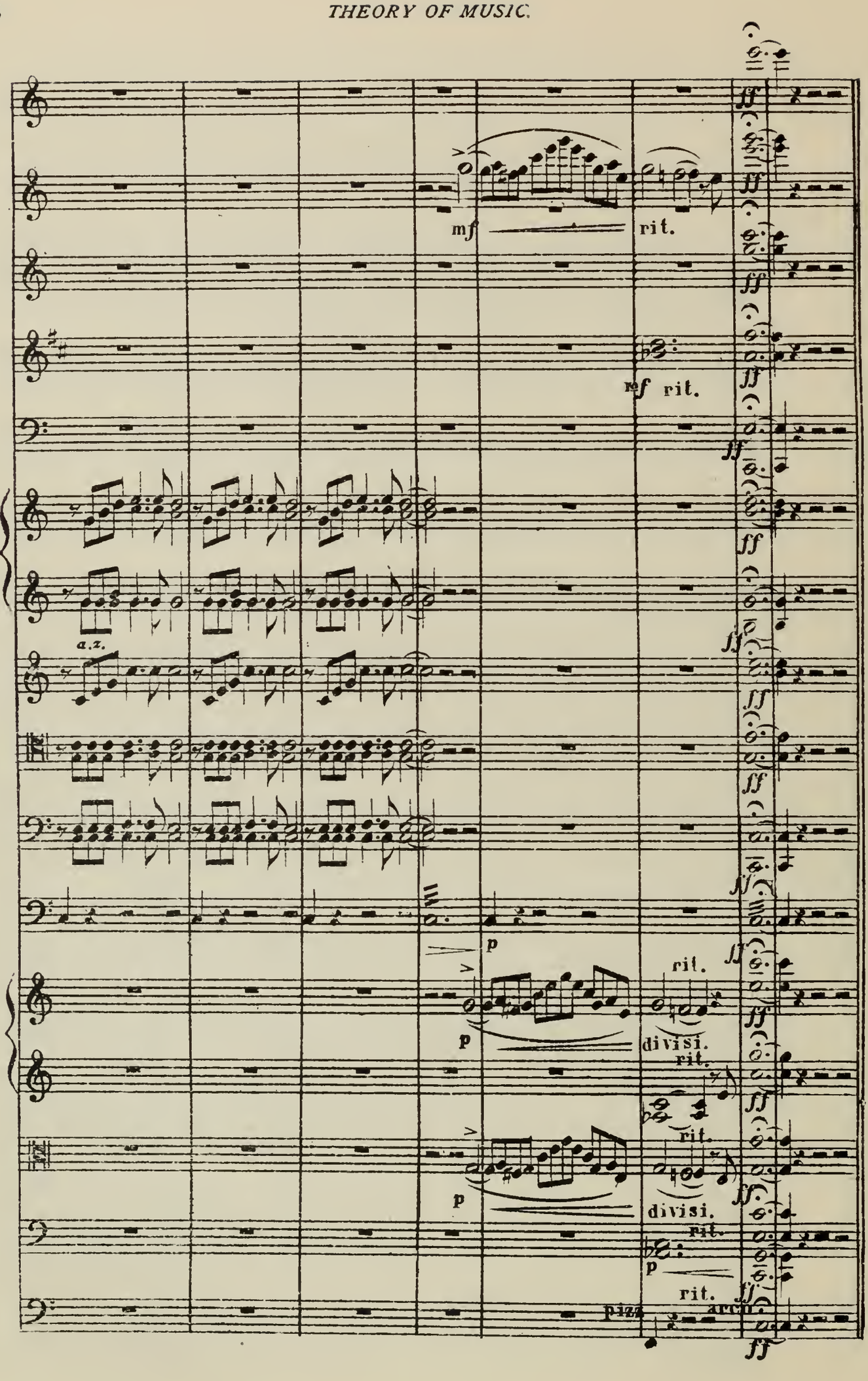
Ex. 291.  Sound as written.

The trombone possesses in an eminent degree nobleness and grandeur, either of a mournful or joyful character. Whenever it is played forte it is of a ringing and penetrating quality, but if played softly it is gloomy and lugubrious.

EXAMPLE OF PASSAGE FOR BRASS INSTRUMENTS—FROM THE CONCLUSION OF THE FIRST MOVEMENT OF THE OCEAN SYMPHONY.

Allegro maestoso A. RUBINSTEIN (1830–1894).



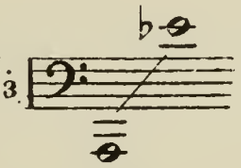

mf
rit.
mf rit.
a.z.
p
rit.
p
divisi.
rit.
rit.
p
divisi.
rit.
p
rit.
pizz.
arco.

TUBA.

The Tuba is a comparatively new brass instrument, much used in the northern part of Europe and in the United States of America. It is either oval or round of shape and of large dimensions, with a bell mouth, which is turned upwards when the instrument is played upon. The quality of its tone is very penetrating if played forte, and something of the same character as the trombone. In soft passages it sounds like a deep, mellow organ-pipe. At the present day it has superseded the ophicleide, serpent and bombardon, because the quality of its tone is more noble and powerful.

It is a non-transposing instrument, written in the F clef, and its compass is as follows, with all the chromatic intervals :

Ex. 293.



Sound as written.

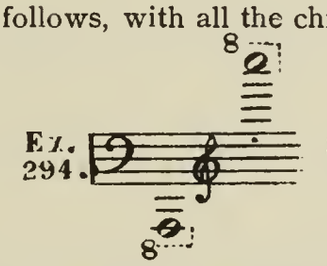
The tuba must be treated in a slow and stately manner. It is very effective when combined with trombones, trumpets and French horns. When used in unison with the double-basses, in order to strengthen them, the motion should be slow, and the performer play his part in a subdued manner. Forte playing upon the tuba is of a spasmodic, asthmatic character, and should be used only when the whole orchestra is employed.

ORGAN

The Organ was introduced about the beginning of the Christian era. It is a wind instrument with a keyboard and pipes of wood and metal, which are made to vibrate by means of a current of air produced by bellows. A complete organ has generally three keyboards, one above another, and a pedal keyboard. Of the three finger keyboards the lowest is called the choir, the second the great organ, and the third or upper one the swell. Each keyboard is furnished with stops which, being drawn out, give play to the different sets of pipes. The choir organ usually contains the stops diapason, dulciana, principal flute, twelfth, bassoon and vox humana (human voice). In the great organ the chief stops are the two diapasons, principal, twelfth, fifteenth, mixture, trumpet, clarion and cornet. The swell stops comprise the two diapasons, principal, oboe, trumpet and cornet. The pedal keyboards, used for the bass notes, generally contains an eight-foot stop, two sixteen-foot stops, and sometimes one thirty-two-foot stop. All these different keyboards, including the pedal keyboard, may, by a certain mechanism, be coupled at pleasure, either two, three or four together. Some large European organs have five keyboards for the hands, the two additional ones being placed above the swell. Every good organ ought chiefly to consist of eight-foot stops, which give the most body and volume to the instrument. All kinds of mixtures are a barbarism of by-gone days and should be omitted.

The compass of the organ is as follows, with all the chromatic intervals :

Ex. 294.



Sound as written.

The keyboards of the organ are exactly the same as the piano, even the technique being the same, with a difference in touch, however, as the organ sustains the tones which the piano cannot, consequently a more legato motion of the fingers is required. Music for the organ is generally written upon three staves, the upper two in the G and F clefs for the hands, and the lowest in the F clef for the pedals played by the feet.

The organ blends badly with an orchestra, fairly well with strings, provided there be many of them, not at all with wooden instruments, best with brass. The sound of a good organ is majestically grand, like the swell of the ocean or the rush of the hurricane; the sound of a poor one is like the tramping of an elephant; or in other words, not essentially musical. In church music, where

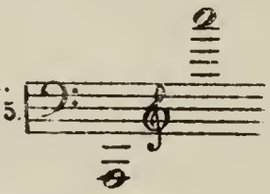
voices, organ and orchestra are used, it is best to let the organ alternate with the orchestra, and whenever they play together it should only be in tuttis.

An organist's talent lies in the art of choosing the different stops and contrasting them judiciously, one with another, according to the instructions of the composer.

REED ORGAN OR HARMONIUM.

If a poor, large pipe organ be compared to the tramping of an elephant, the tone of a harmonium may be said to resemble the buzzing of a mosquito, in so far that it lacks volume of tone, body and power.

It is made in the shape of an upright piano, with metalic reeds over which passes a current of air. The following is its compass, with all the chromatic intervals:

Ex. 295.  Sound as written.

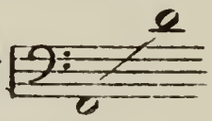
The instrument is furnished with stops, from one upwards, though there is no essential difference in their tone color. The harmonium is at once a church, theatre, concert and drawing-room instrument, and hence of indisputable utility.

HUMAN VOICE.

The human voice consists of two groups, male and female, and the latter includes the voices of children of both sexes.

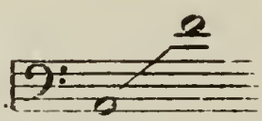
The male voice is divided into bass, baritone and tenor.

The bass voice, written in the F clef, is the deepest human voice, and its compass is as follows:

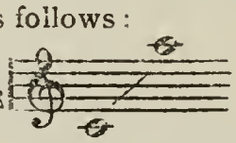
Ex. 296.  Sound as written.

There are many bass voices which have the power of ascending or descending a tone or two beyond this compass, but it is not safe to exceed it, especially when writing for chorus.

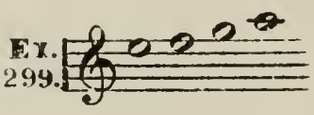
The baritone voice is perhaps the most common kind of male voice, lying between the bass and tenor and corresponding, at the distance of an octave below, with the mezzo-soprano or middle female voice. Its compass is as follows:

Ex. 297.  Sound as written.

The tenor voice formerly sang the principal part in a vocal composition, and derived its name from the Latin *tenere*, to hold, because it held or sustained the subject. It is the highest of the male voices, and is at present written in the G clef, with the understanding that the part should be sung an octave lower. Its compass is as follows:

Ex. 298.  Sound one octave lower than written.

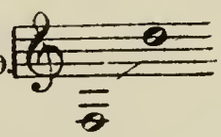
When employed in a chorus care should be taken not to fatigue the voices by remaining on

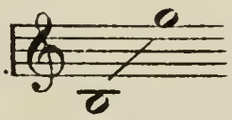
Ex. 299. 

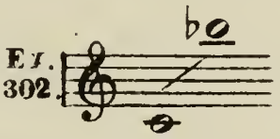
These tones should only be used as passing ones, otherwise they will be of uncertain intonation, shrieking and too prominent, thereby covering the actual subject wherever it may be found.

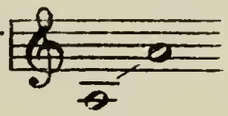
The female voice is divided into alto or contralto, mezzo-soprano and soprano, all of which, at present, are written in the G clef.

Contralto or alto voice, from the Italian word *alto*, high, so called because when first used it was the highest voice, being above the tenor, but since soprano has been added it is the deepest of the female voices. The alto is written in the G clef, and its compass is as follows :

Ex. 300.  Sound as written.

Mezzo-soprano. The compass of this voice is as follows : Ex. 301.  Sound as written.
It is the most common female voice.

Soprano voice, from *sopra*—above, meaning above the alto ; it is the highest human voice, with the following compass : Ex. 302.  Sound as written.

Whenever children's voices are introduced into choruses they should sing within the following compass : Ex. 303.  The voices may occasionally be carried up to C, but it must be remembered that all children sing with chest tones, and if carried above A the voice will be liable to break. Boys' voices produce great effect when singing *cantus firmus* or any other slow subject which the composer may wish to predominate. In the chorus "But Our God Abideth in Heaven," from Mendelssohn's (1809–1847) oratorio "St. Paul," the second soprano part, singing the *cantus firmus*, is sometimes given to a boy-choir, which arrangement lends a charm to the whole piece that it would not otherwise possess. Anyone who is familiar with Meyerbeer's (1794–1864) opera "The Prophet," will remember the striking effect of the boy voices introduced in the church scene.

Composers will do best to write their vocal scores in six parts, three for male and three for female voices, viz.: bass, baritone, tenor, alto, mezzo-soprano and soprano. The advantages of occasional rests for the singers in the different parts, and of the tenors not being forced to sustain the harmony on their high shrieking tones, are evident. The Italians and French best understand how the voices must breathe, and consequently give them plenty of pauses ; if these are omitted the composer will be sure to have his musical ideas broken in conspicuous places. It must be remembered that voices, like wind instruments, have no command of long sustained tones as have stringed instruments or organs.

Choruses for female voices in three or more parts produce striking effects in pieces of a tender, religious character. Choruses composed for male voices only have much power.

The art of writing for solo voices is very complicated and swayed by a thousand circumstances. The voices most easily treated are the bass and baritone, as they have no head tones. The tenor voice is the most difficult to treat, on account of its three registers—chest, mixed and head tones, because the facility for producing each is not the same in all singers. The first soprano is less difficult to treat than the tenor, the head tones scarcely differing from the chest ; mezzo-soprano and contralto voices are comparatively easier. In all voices care should be taken not to place many words upon high notes, as the articulation of syllables then becomes most difficult.

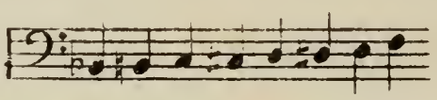
The castrates are men who, through a surgical operation, are transformed into artificial soprano singers. They were used in olden times as a substitute for women, who were then not admitted into the church as singers. At present they are only found in the Vatican choir in Rome.

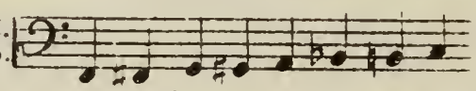
The Hallelujah, finale of the second part of Handel's (1685–1759) oratorio "The Messiah," is recommended as a fine example of chorus writing.

INSTRUMENTS OF PERCUSSION.

These instruments are of great antiquity. There are two kinds: the first comprises instruments of definite tone, as kettle-drums and bells; the second kind, instruments of indefinite tone, as bass-drum, small-drum, cymbals, tambourine, gong, triangle, etc., and are either employed to produce special effects or to accent the rythm.

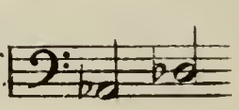
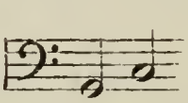
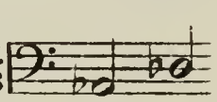
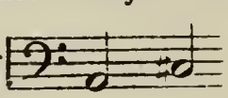
KETTLE-DRUMS.

Kettle-drums, Italian *timpani*, made of copper or brass in the shape of a half ball, are from two to three feet in diameter. Across the flat part is stretched a prepared sheepskin, and the rim which confines it is furnished with numerous screws, which serve to raise or lower the tone at pleasure. Two felt covered sticks are used by the drummers to strike the parchment. They are written in the F clef on one staff. In an orchestra there are always two kettle-drums, the one a little larger than the other. In scores of past composers the small one is generally tuned in the tonic, and the large one in the dominant. The compass of the small kettle-drum is: Ex. 304  Sound as written.

The compass of the large one: Ex. 305.  Sound as written.

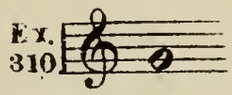
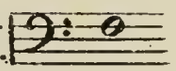
At the present day kettle-drums are tuned in all intervals, and frequently these are changed during the progress of a movement. It is therefore indispensable for a drummer to possess a remarkably acute ear, besides a flexible wrist and an unerring mind for counting the many bars rest, which unavoidably occur. Most composers use two timpani, though three and four have been and still are used. Berlioz (1803–1869), in the Tuba Mirum from his Requiem, uses sixteen timpani, with thirteen different tones. It is advisable, on account of the numerous changes of key required by modern composers, for every orchestra to possess four timpani. This will give the drummer a chance to tune them in the desired keys before the movement commences, and do away with the screwing of them up and down during the performance.

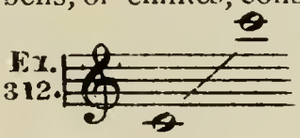
The timpani can be used either to mark the rythm or to give color to the composition. The old masters wrote them always in the tonic and dominant together with the trumpets. The composer who has made the best use of this instrument is undoubtedly Hector Berlioz (1803-1869).

The notes of the kettle-drums must be indicated at the beginning of the score. Thus, for instance, if in A♭ and D♭, the tones should be written TIMPANI IN A♭ AND D♭ Ex. 306.  and not like the old composers TIMPANI IN A♭ AND D♭ Ex. 307.  Here is an example illustrating how to use two kettle-drums in two different keys. If our composition begins in D♭ major, we tune the kettle-drums thus: Ex. 308  Now, suppose we pass into A major and need our kettle-drums, we indicate in the score A♭ in A♮, and D♭ equal to C♯, Ex. 309  after which, changing the A♮ to A♭ and indicating that C♯ is equal to D♭, we again reach our original key.

BELLS.

Single Bells have been introduced into instrumentation for the production of effects more dramatic than musical. The quality of low bells is appropriate only to solemn or pathetic scenes. High bells, on the contrary, have something rustic and natural about them which renders them particularly

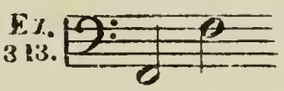
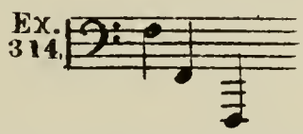
suitable for religious scenes or rural life. This is why Rossini (1792–1868) has employed a little bell in G Ex. 310  Sound as written. to accompany the graceful chorus in the 2d act of his opera William Tell. Meyerbeer (1794–1864) has used the bell in F Ex. 311.  Sound as written. to give the signal for the massacre of the Huguenots in the 4th act of the opera of that name. He has taken care, moreover, to make of this the diminished 5th by placing below it B♮, played by the bassoons, which, aided by the low tones of the two clarinets, impart to it that sinister quality of tone which awakens the terror and alarm pervading the scene.

A set of bells, or chimes, consists of steel bars usually extending two octaves with chromatic intervals, Ex. 312.  Sound as written. and made to vibrate by striking them with small hammers. The part is written in the G clef.

BASS DRUM.

The Bass-drum, in Italian ***gran cassa,*** is made of wood in the shape of a half barrel, three to four feet in diameter, with a covering of sheepskin at both ends. A drumstick with a leather ball of the size of an orange is used to strike the parchment, producing an uncertain, deep sound. The part is written in the F clef

It has recently been introduced into the orchestra as a solo instrument not intended to be sounded with the cymbals in a noisy manner, but to produce peculiar effects which no timpani can give. In this case it should be played with a kettle-drum stick. In the music of Gounod (1817–1893) and Berlioz (1803–1869), this artistic way of using the bass-drum will frequently be found.

If a pair of kettle-drums are tuned thus: Ex. 313.  and the following effect be desired: Ex. 314.  the lowest note may be beaten upon the bass-drum, and if the two timpanis are in perfect tune, the uncertain deep sound of the bass-drum, coming immediately after the two F's of the kettle-drums, will certainly produce the effect of being an octave lower than the deepest tympani.

The notation of all instruments of percussion without decided tone should be placed upon a single line, though they will frequently be found written upon one staff in the G clef for the instruments of high vibration, and in the F clef for those of low sound.

SMALL DRUM.

The Small Drum, in Italian *tamburo,* is a martial, pulsatile instrument of a cylindrical form, and covered at each end with sheep skin, which can be stretched or loosened at pleasure, by means of small cords or braces acted upon by sliding knots of leather. This instrument is beaten by two wooden drum-sticks. The small drum is an Oriental invention, and was first introduced into Europe by the Arabians. Its part is best written upon a single line in the G clef. When used in an orchestra, the part should be performed by a number, say from four to twelve drummers, as the sound of a single drum is empty, hard and vulgar.

All drums, including kettle-drums, may be muffled by covering the skin with a piece of cloth; the drums thus acquire a dim, dull sound, useful for compositions of a funereal or terrible character.

CYMBALS.

Cymbals, in Italian *piatti*, are of very ancient origin. They are large brass or copper plates, two in number, one for each hand. When beaten together they produce a clash which will predominate in any orchestra. The part is best written upon a single line in the G clef. If the desired tone be of long duration, the composer should write: Let them vibrate. The length of the tone is regulated by the performer bringing both cymbals against his chest, thus destroying the vibration. When a sound of less intensity is wanted, the composer should indicate that he desires a single cymbal struck by a kettle-drum or bass-drum stick.

TRIANGLE.

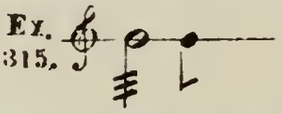
This is a small instrument, consisting of a bar of polished steel bent into a triangle, which is beaten by another steel bar about the size of an ordinary lead pencil. Its part should be written upon a single line in the G clef, and when sparingly and properly used, it produces a good effect, imparting brilliancy and gaiety to the music.

GONG.

The Gong or Tamtam, of Chinese origin, is made in the shape of a thick, flattened copper kettle, and beaten by a bass-drum stick. Its part is written upon a single line in the F clef.

This instrument is more effective, and of much deeper sound than the cymbals, and must only be employed in funereal compositions or dramatic scenes where horror is carried to the highest point. The vibrations of the gong, strongly struck, mingled in thrilling chords with trumpets and trombones, make the listener shudder. If softly beaten and alone, it is of no less lugubrious sound.

TAMBOURINE.

This instrument is a hand-drum in the shape of a sieve, and furnished with metal jingles, which are put in motion by shaking the instrument with one hand, whilst the parchment is struck by the other. If the parchment be rubbed with the end of the finger, the result is a rolling sound, in which the noise of the jingles surrounding the edge is chiefly heard. However, this roll should be very short, because the finger which rubs the parchment as it advances soon attains the edge, and puts an end to its action. This roll is written thus: Ex. 315.  The tambourine is best employed to illustrate dances of Italian peasantry or music of Gypsies. Its part is written upon one line in the G clef.

SUGGESTIONS ON INSTRUMENTATION.

A theoretical knowledge of each individual instrument having been gained, we now propose to give some suggestions on the art of uniting those instruments which are commonly used in all orchestras.

It must, however, be understood beforehand, that no rules for blending tone-colors or producing striking effects can be given. Success in such matters depends partly on the nature of the music, but largely upon the invention, talent, taste and imagination of the composer. It is easier to tell what can *not* be done than what can be.

A composer of a symphony, opera, oratorio, concerto, or any piece requiring a great number of instruments or voices, writes upon separate staves whatever is to be performed, and connects the staves by bars drawn perpendicularly upon the page. This union of parts is called a score.

All composers do not lay out their scores in the same manner, but there are certain rules of arrangement which have been generally adopted. The instruments or voices are usually placed in the order they occupy in the system of tones; the deepest being placed lowest on the page, and the others in their order above, according to pitch. The old Italian masters placed the violins and violas at the top, the wind instruments in the middle, and below these the violoncellos and double-basses.

The old German composers placed the brass instruments at the top, the wood in the middle and the strings at the bottom.

A modern score is arranged as follows: The wooden instruments at the top, next the brass and percussion, and then the strings. According to this arrangement, music paper with twenty-one staves will be necessary to form a score of the following pattern:

Wood.
- Piccolo flute on one staff.
- Two large flutes on one staff.
- Two oboe on one staff.
- English horn on one staff.
- Two clarinets on one staff.
- Bass clarinet on one staff.
- Two bassoons on one staff.
- Double bassoon on one staff.

Brass.
- Two French horns on one staff.
- Two French horns on one staff.
- Two trumpets on one staff.
- Three trombones on one staff.
- Tuba on one staff.

Percussion.
- Timpani, two, three or four on one staff.
- Instruments without definite tone on single lines drawn between the staves.

Strings.
- Harp on two staves.
- 1st violins on one staff.
- 2d violins on one staff.
- Violas on one staff.
- Violoncellos on one staff.
- Double basses on one staff.

If there be voices in the score, they should be placed directly above the first violins.

The principal parts of an orchestral composition are generally given to the stringed instruments of the violin family, nor is this preference without good reason. They are easily tuned to any required pitch, and may be played upon for any reasonable length of time. They admit of great rapidity of execution, are capable of perfect intonation in all keys; and lastly, with their agility and volume of tone are admirably adapted to all styles of composition.

The wind instruments are employed to enhance and diversify the effect of the strings, to impart light and shade, to alternate with the strings or to unite with them in the tuttis.

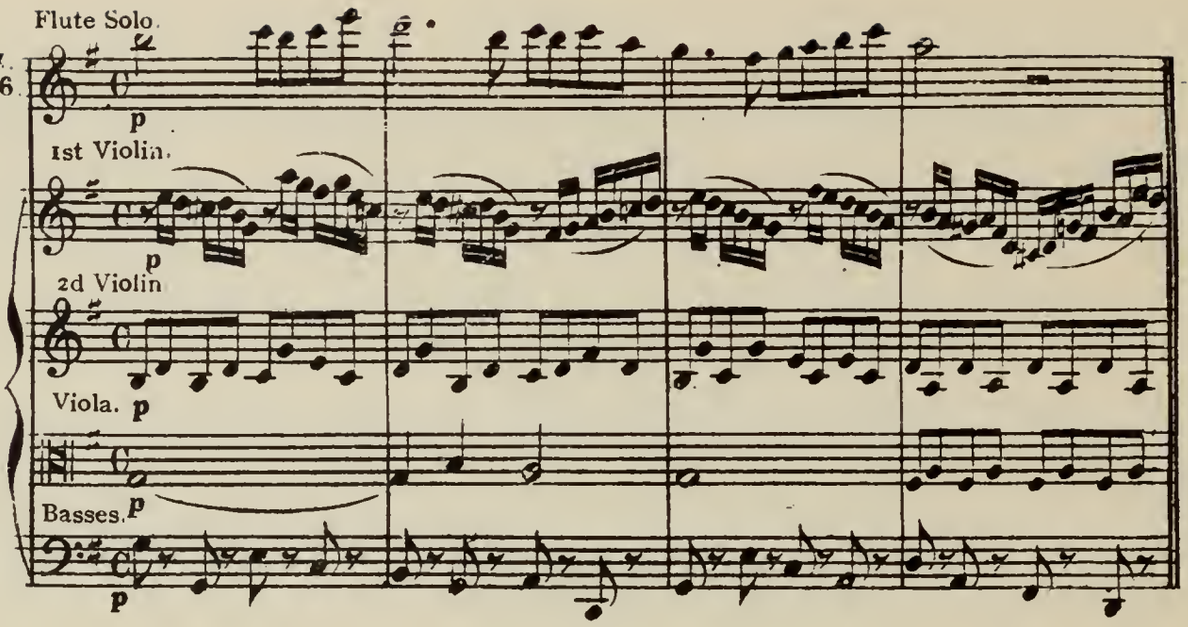
When two, three or four instruments are combined they must always form complete harmony between themselves, independent of the other instruments. This remark is important, and also applies to two, three or four voices.

Any movement composed for an orchestra should be well defined, bold, but not immoderate. Passages in unison, melodious traits, occasional majestic passages in the bass, discreet rapidity in the change of harmony; in fact, whatever partakes of simplicity and grandeur, will never fail to produce its proper effect.

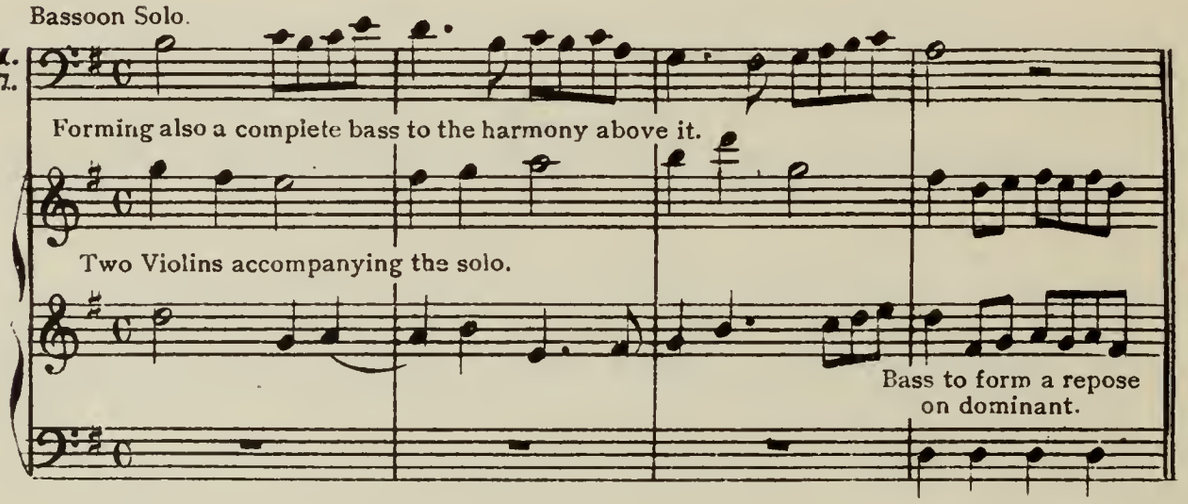
On the other hand, music in which there is much rapid contrary motion of the various parts, quick succession of chords, great complication of harmony or counterpoint, arising from too minute elaboration, will result in a kind of indistinct and buzzing noise.

The following fifteen examples will illustrate the different ways of writing for one or more solo wind instruments in combination with the body of stringed instruments:

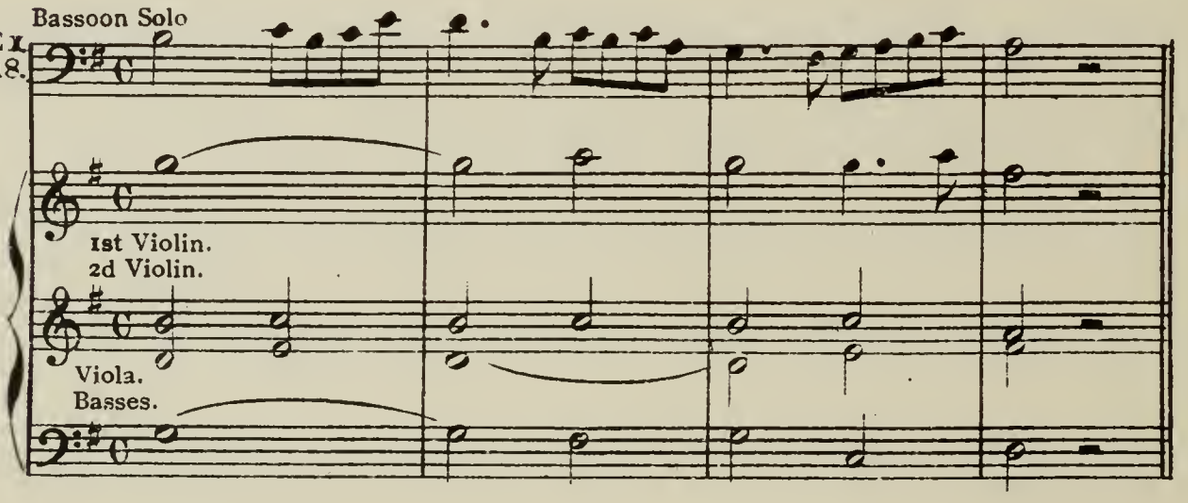
Ex. 316.



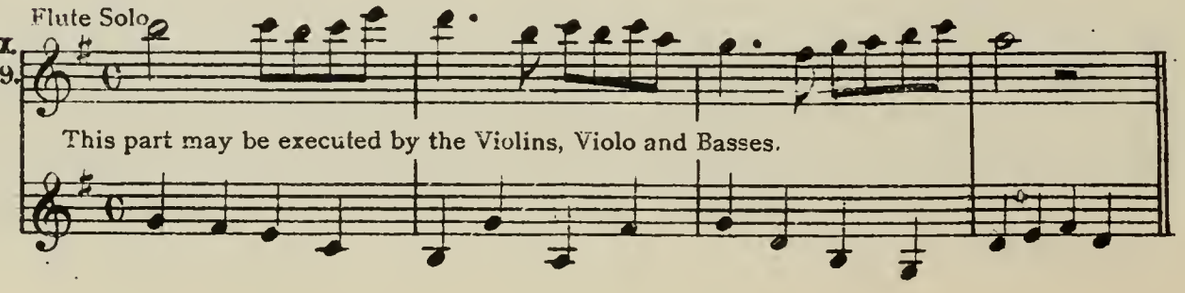
Ex. 317.



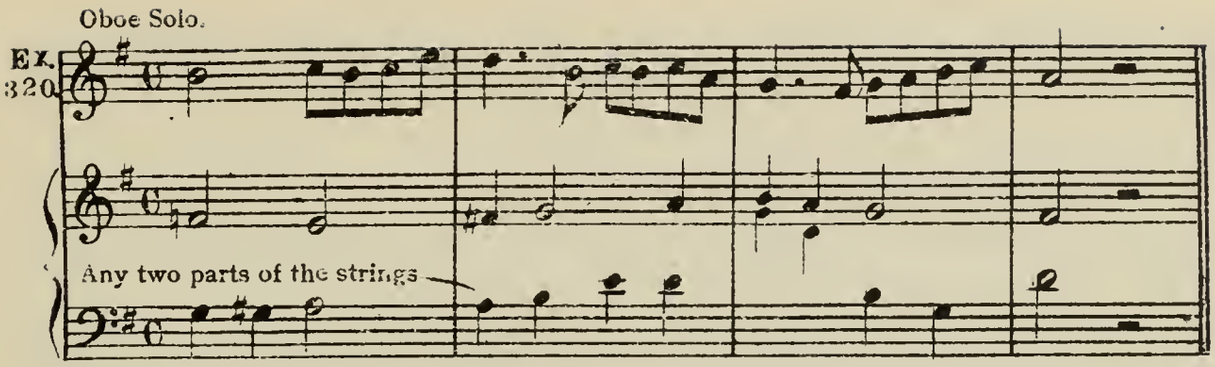
Ex. 318.



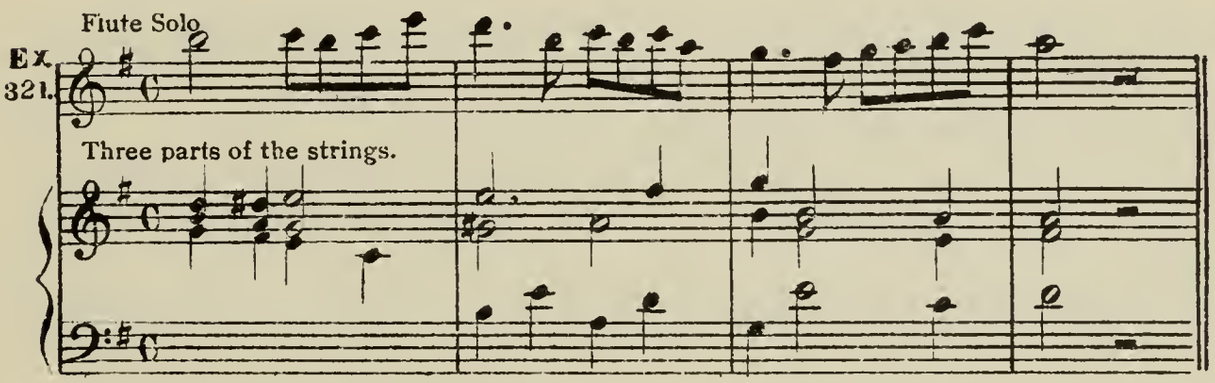
Ex. 319.



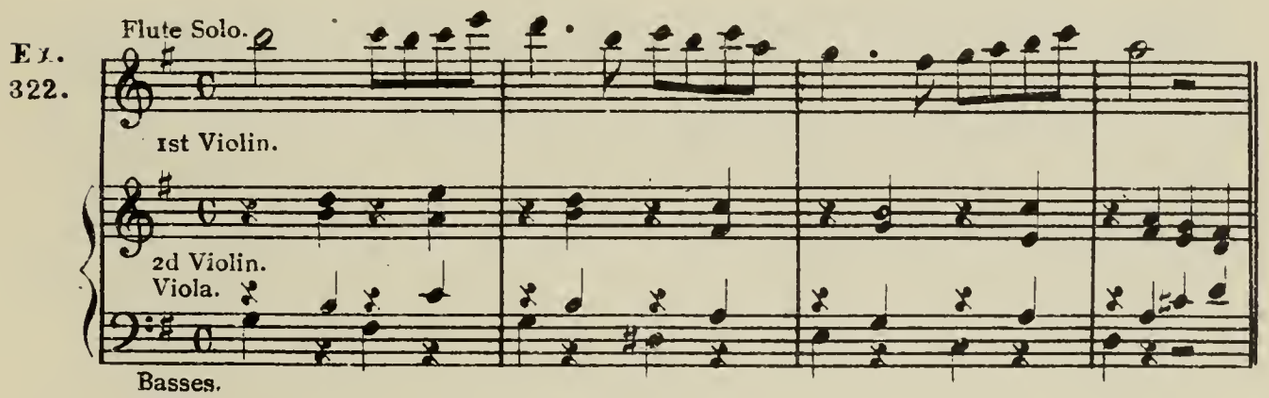
Ex. 320.



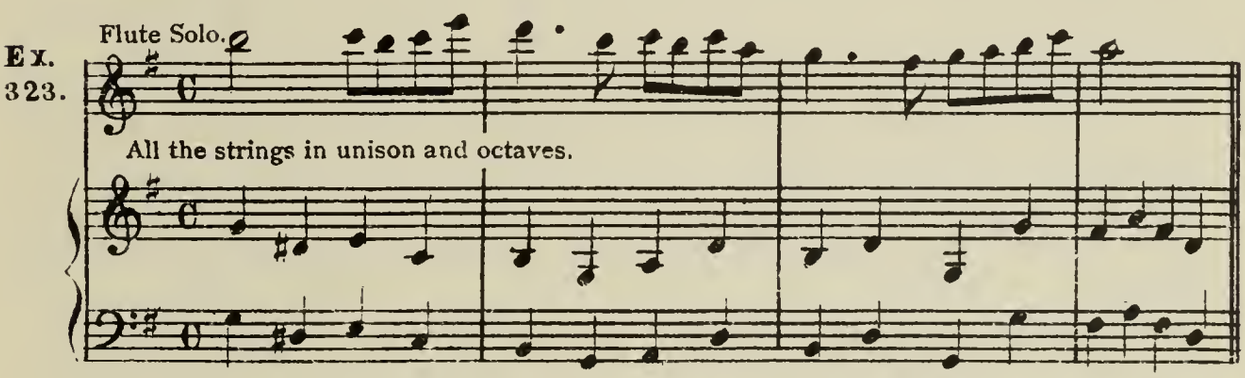
Ex. 321.



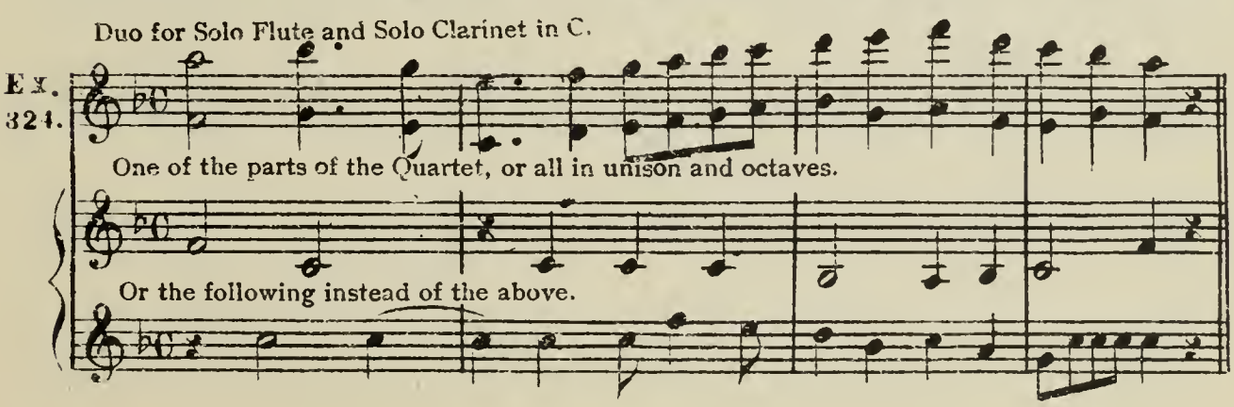
Ex. 322.



Ex. 323.

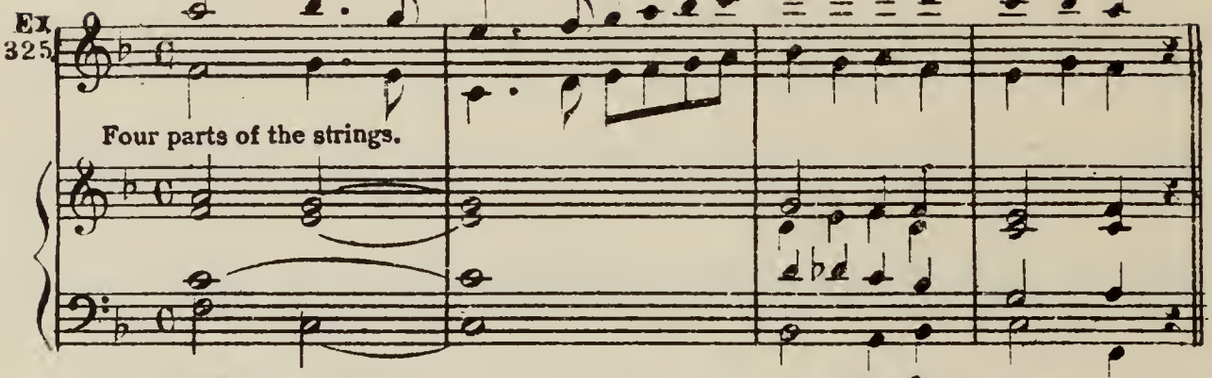


Ex. 324.



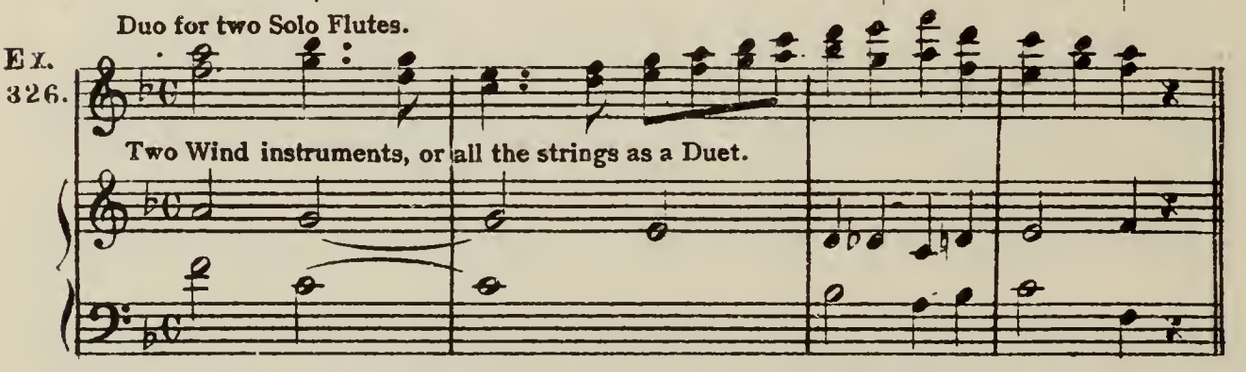
Solo Flute and Solo Clarinet in C.

Ex. 325.



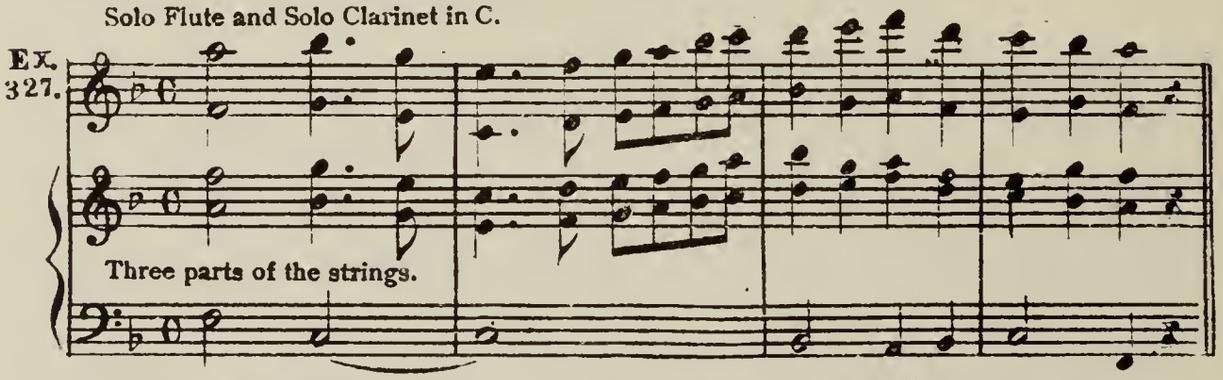
Duo for two Solo Flutes.

Ex. 326.



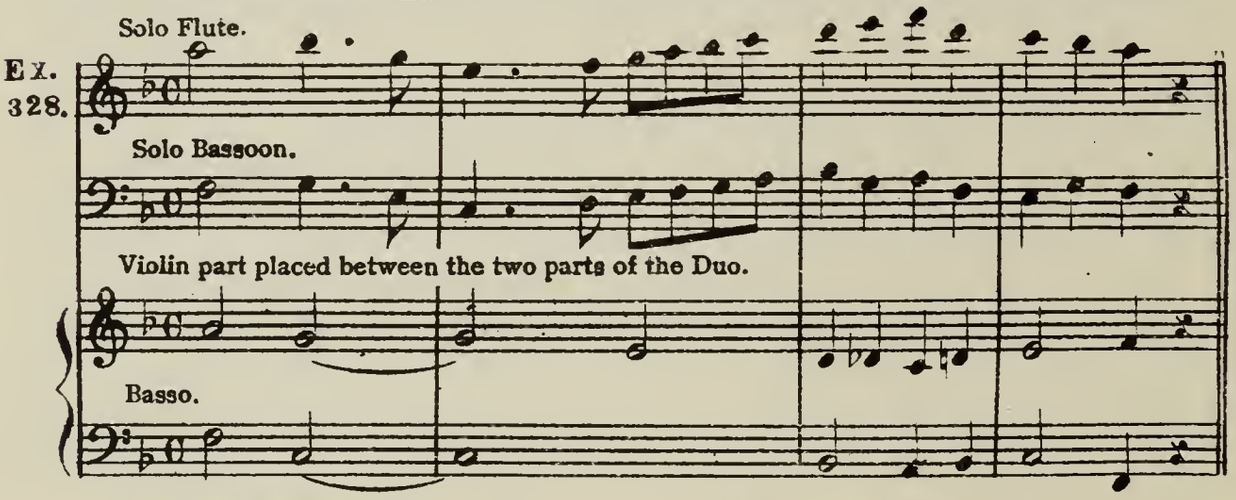
Solo Flute and Solo Clarinet in C.

Ex. 327.



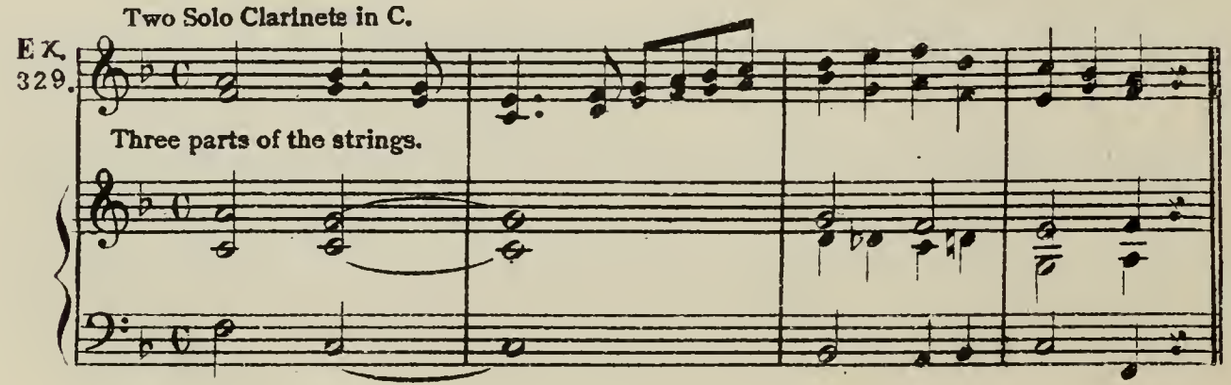
Solo Flute.

Ex. 328.

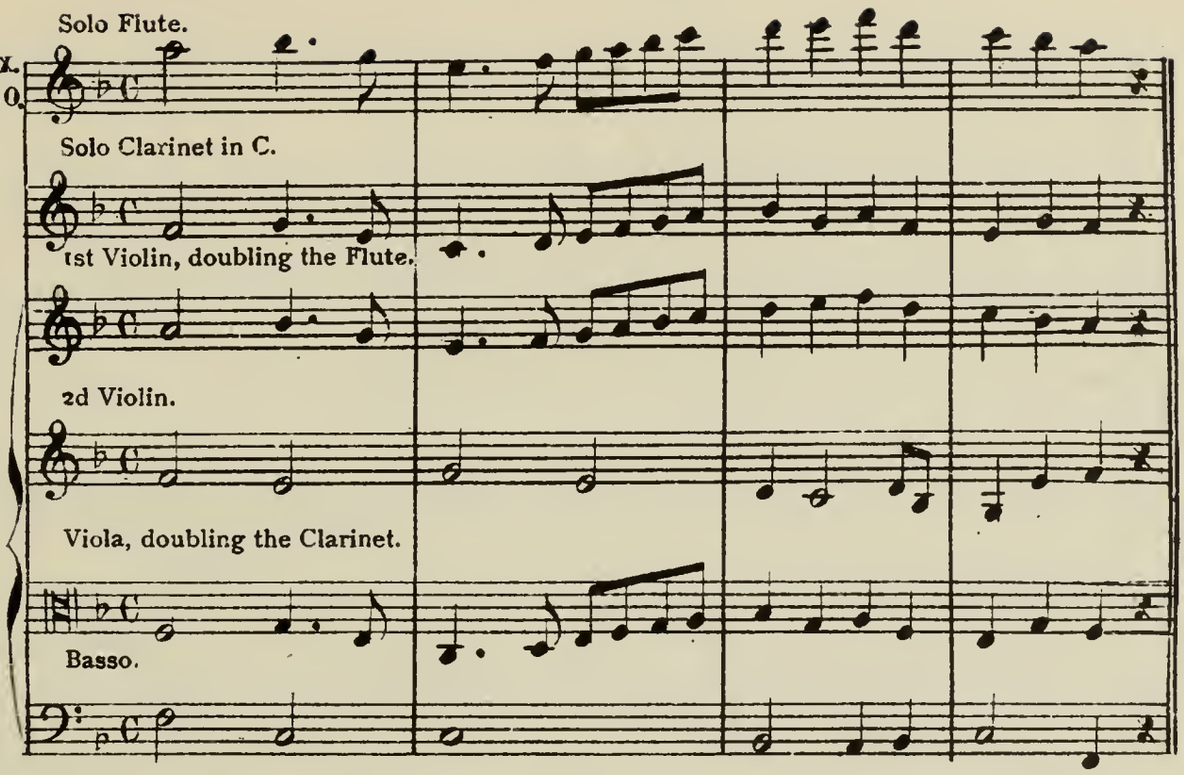


Two Solo Clarinets in C.

Ex. 329.



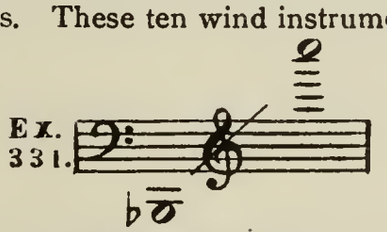
Ex. 330.



Consecutive octaves produced by doubling the part of a higher instrument in a lower one, except the bass, are acceptable whenever the counterpoint is in four or more parts, but not otherwise. The solo part may occasionally be doubled in the octave above or below. Counterpoint written to a solo instrument should be treated with simplicity, and composed so as not to interfere with the solo part, or attract attention from it. However, when the solo part pauses, or will allow of it, short melodious traits, more or less striking, may be effectively introduced in the counterpoint.

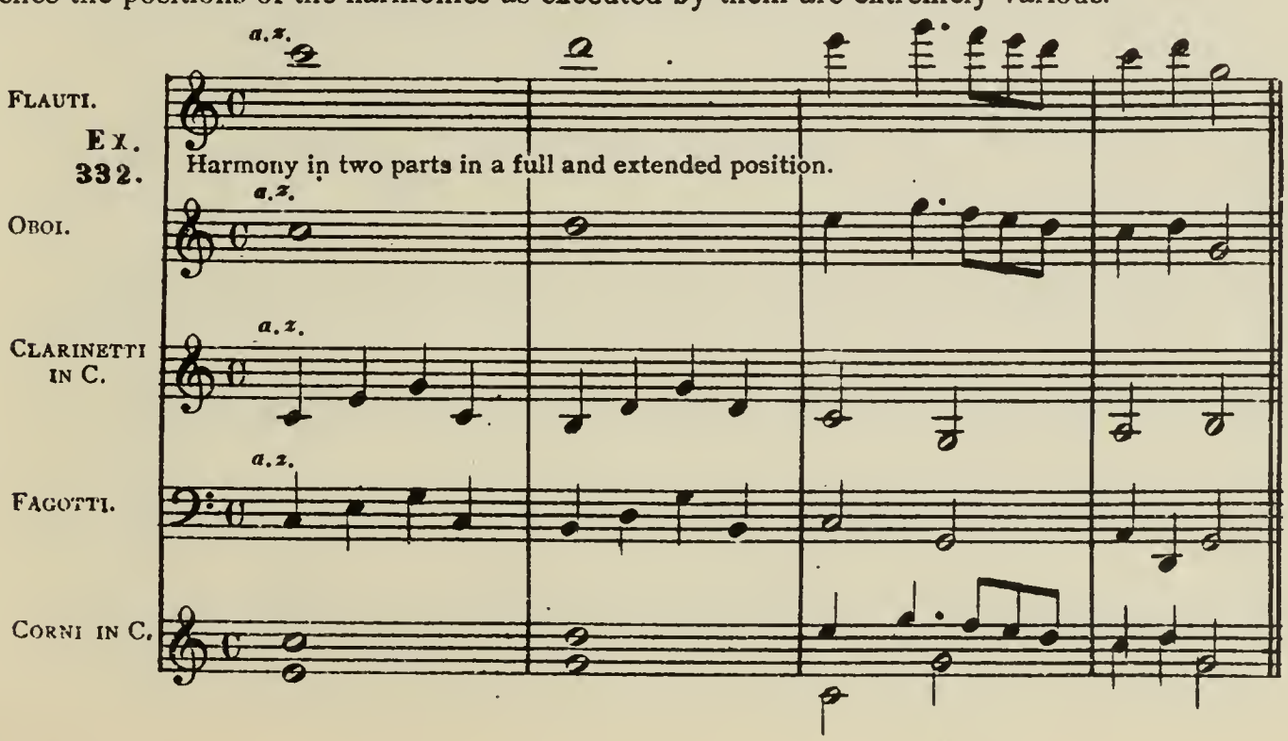
The principal wind instruments of a mellow character, as two flutes, two oboes, two clarinets, two bassoons and two French horns, ten in all, when playing together, have sufficient power to counterbalance from thirty strings upwards. These ten wind instruments extend from

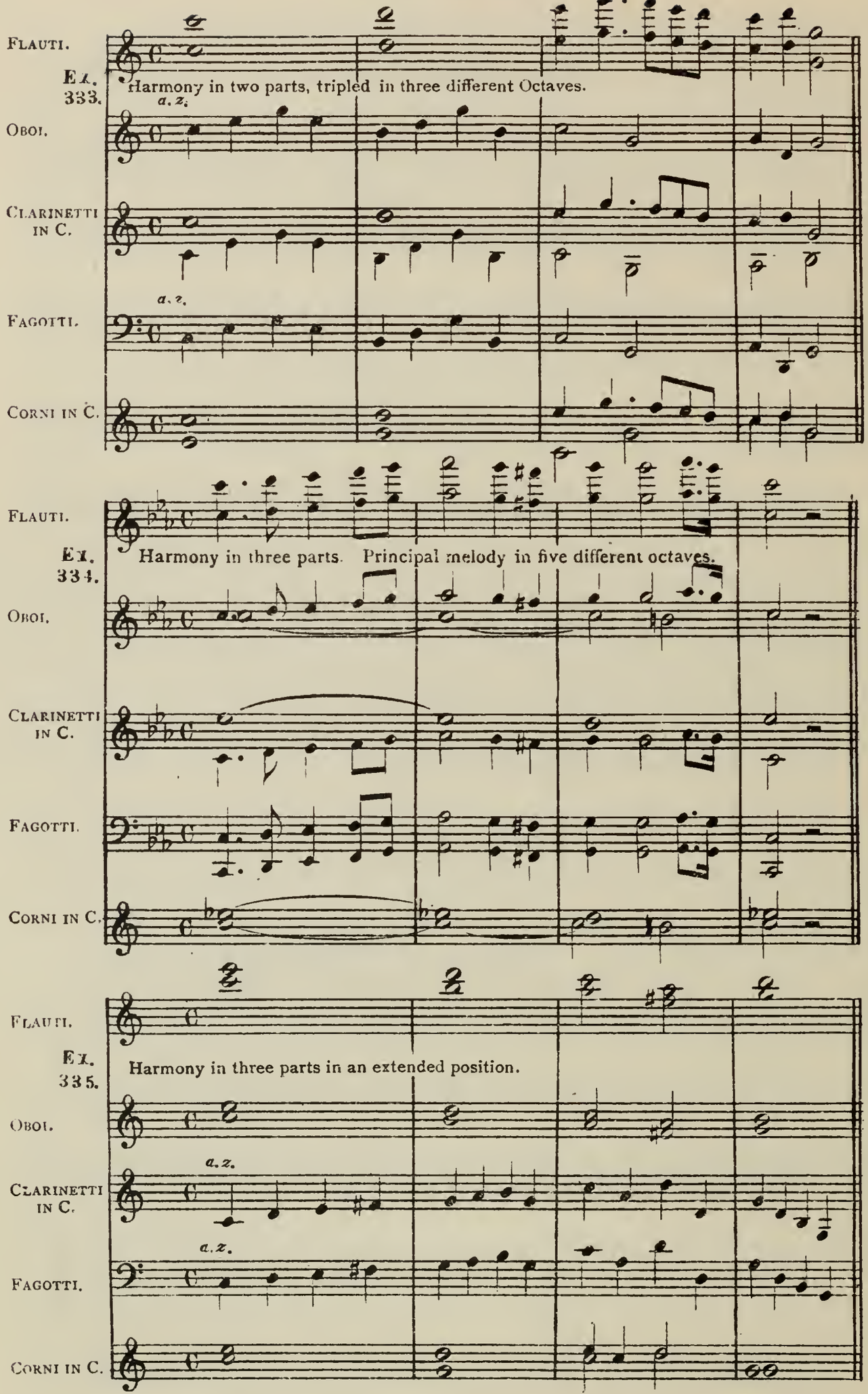
Ex. 331.



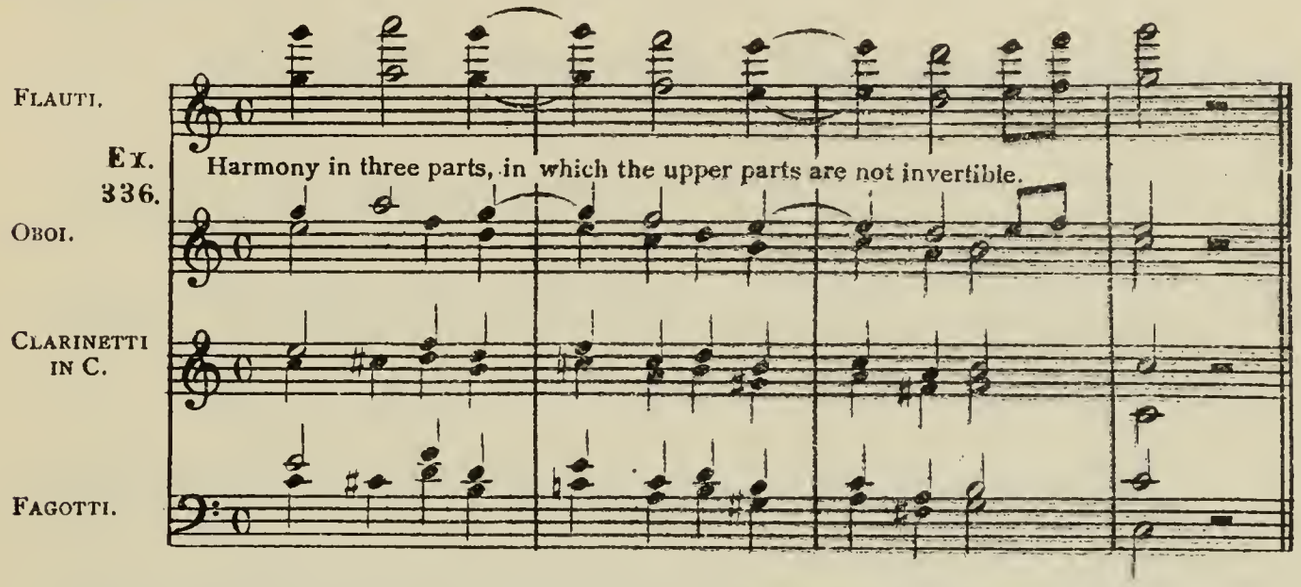
hence the positions of the harmonies as executed by them are extremely various.

Ex. 332. Harmony in two parts in a full and extended position.

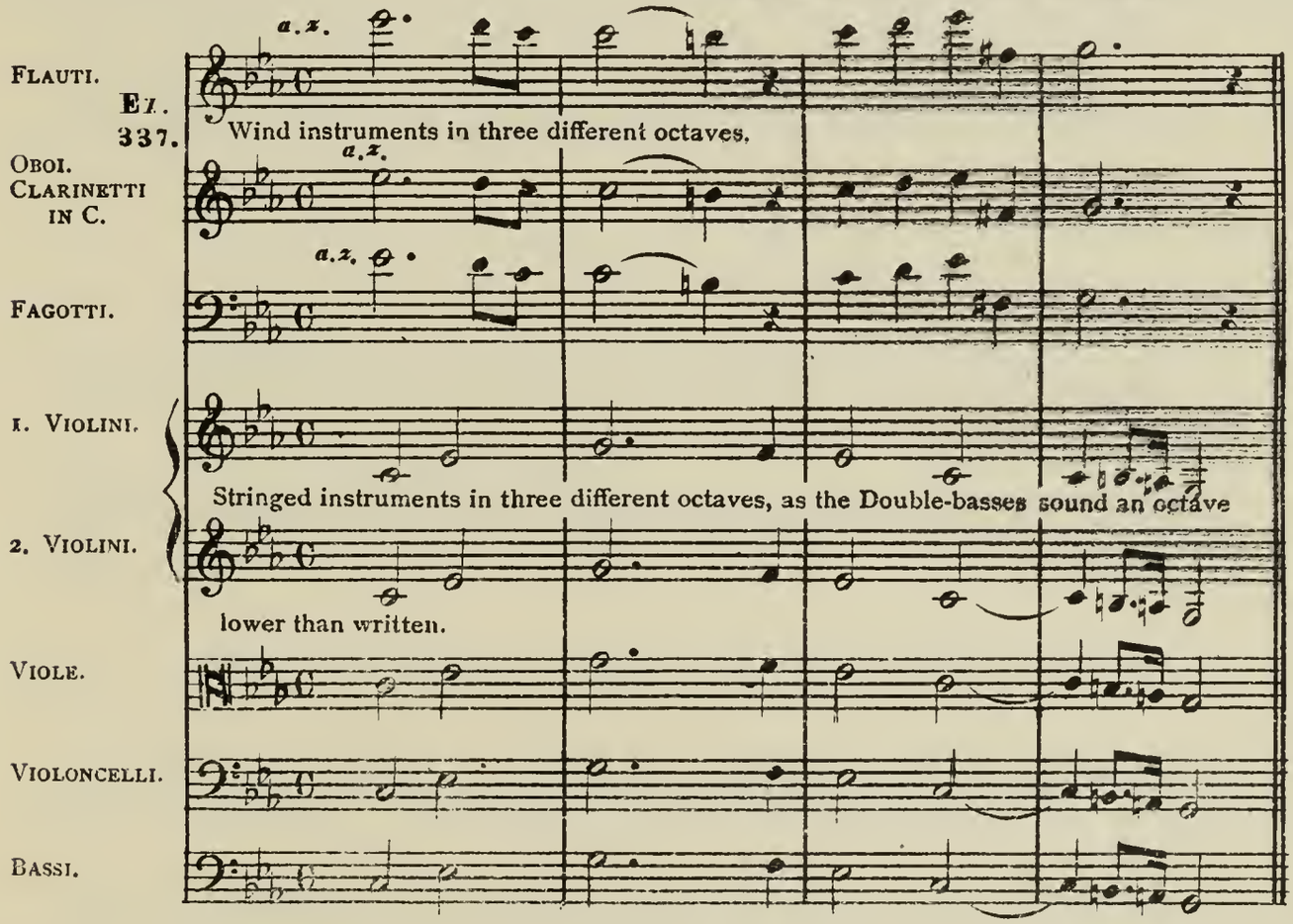



Flauti.
Ex. 333.
Harmony in two parts, tripled in three different Octaves.
a. z.
Oboi.
Clarinetti in C.
a. z.
Fagotti.
Corni in C.
Flauti.
Ex. 334.
Harmony in three parts. Principal melody in five different octaves.
Oboi.
Clarinetti in C.
Fagotti.
Corni in C.
Flauti.
Ex. 335.
Harmony in three parts in an extended position.
Oboi.
a. z.
Clarinetti in C.
a. z.
Fagotti.
Corni in C.

It must, however, be remembered that not all harmonic phrases admit of being doubled at pleasure in either the octave above or below, because there would result a series of real or hidden octaves and 5ths. In certain cases, when combining the parts, the upper part must not be doubled in the lower one.



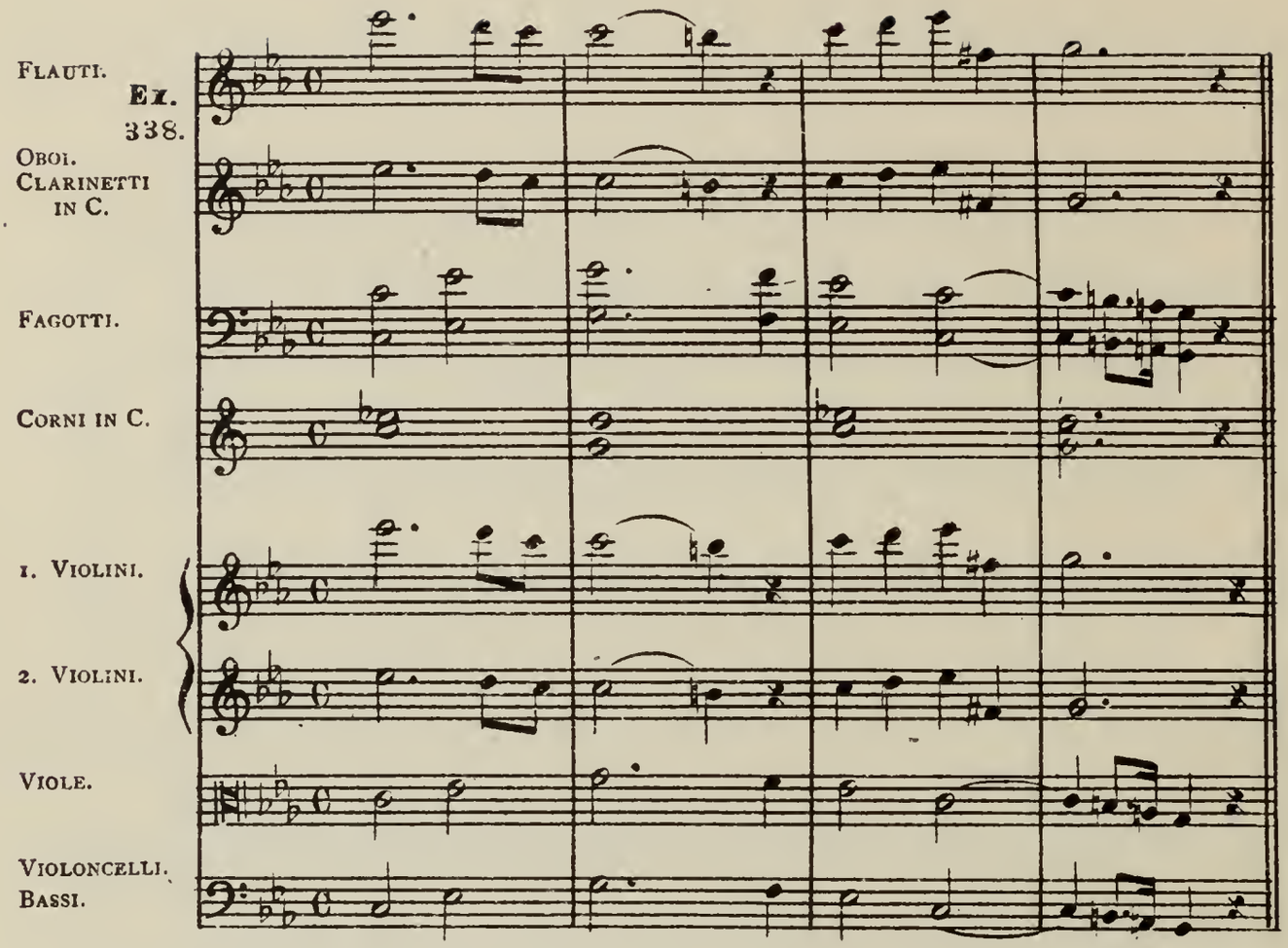
In grand conceptions the entire orchestra can sometimes be treated as in two parts counterpoint, in which case one part may be given to the strings, and the other part to the wind instruments.



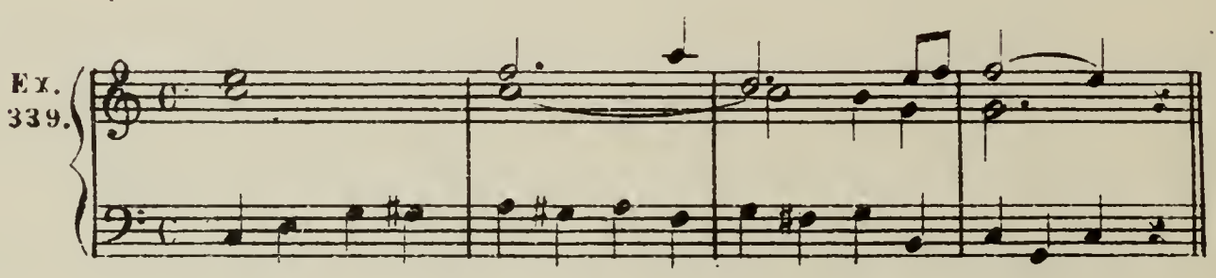
In three part counterpoint (Ex. 339) the upper two parts may be given to the wind instruments, and the bass to the strings, if the subject lie in the bass, this arrangement is the best; or (Ex. 340) the bass and middle part may be given to the strings, and the upper part to the wind instruments in unison.

Again, Ex. 337 may be performed by the wind and strings combined. (See Ex. 338.)

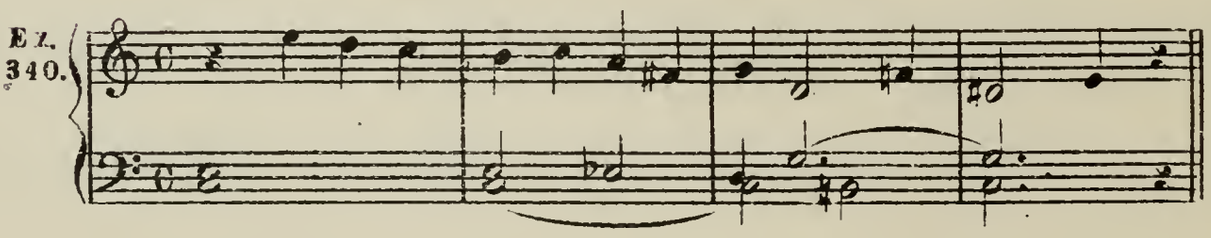
Ex. 338.



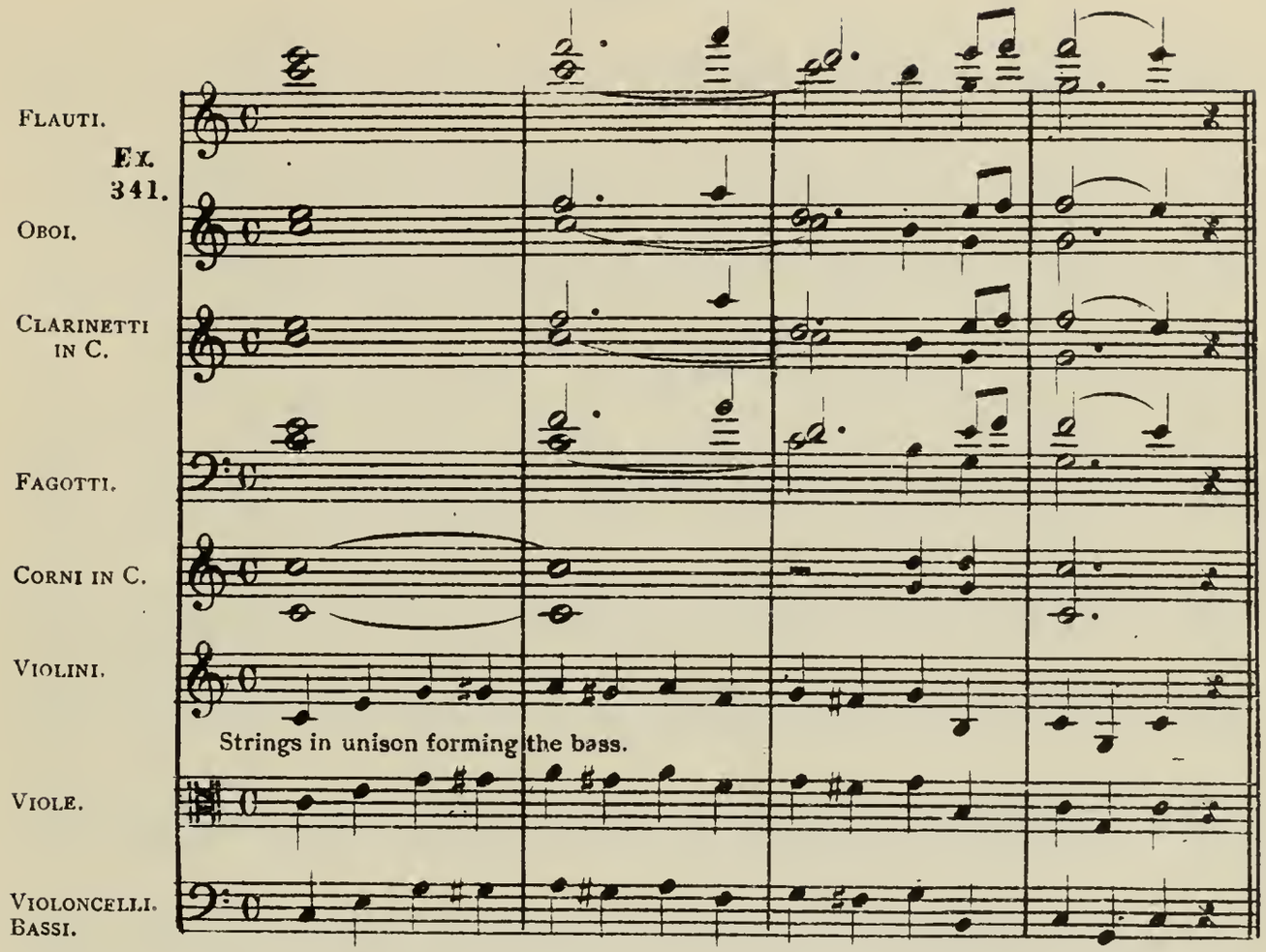
Ex. 339.

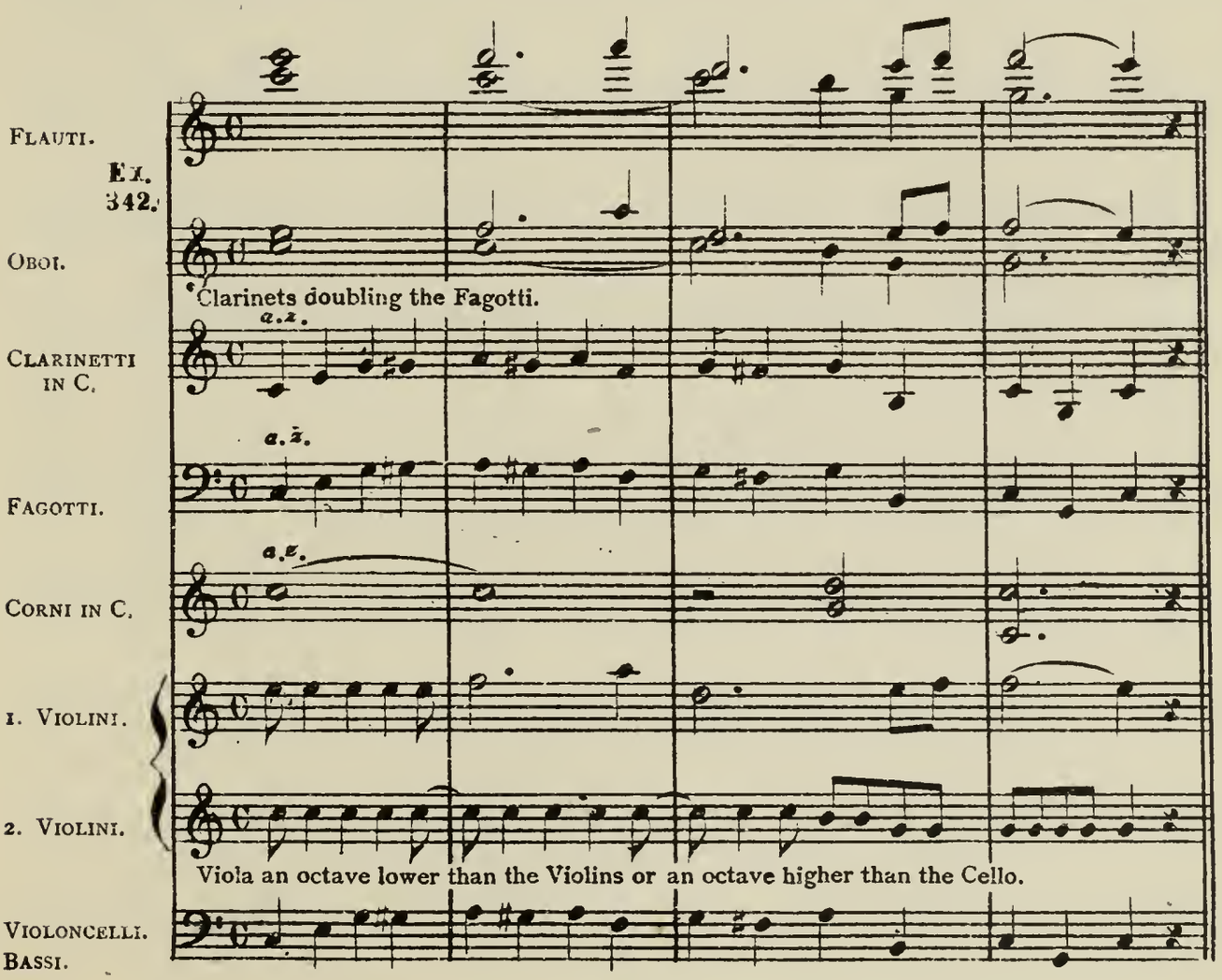


Ex. 340.



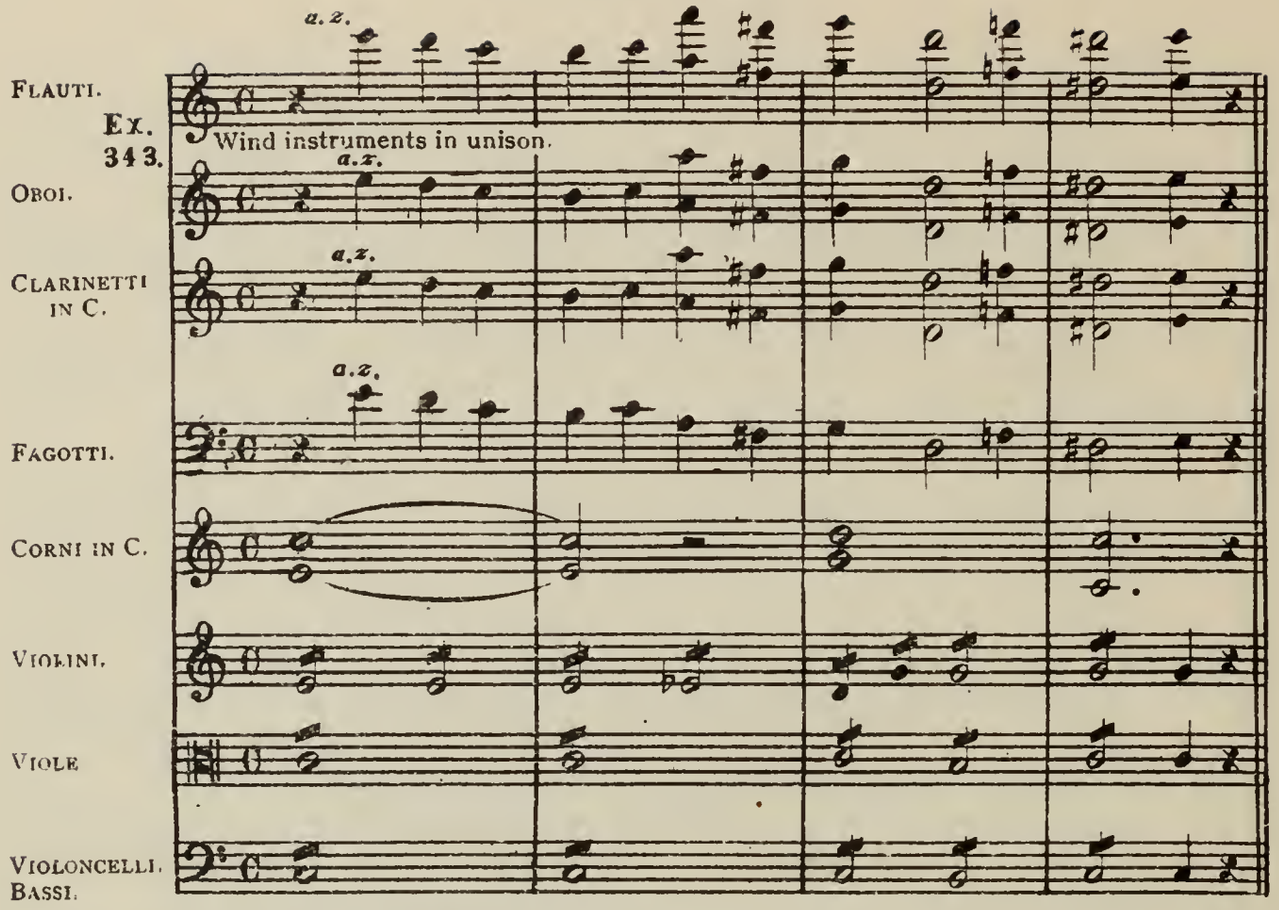
If Examples 339 and 340 in three parts be set for the entire orchestra, the following will be an illustration :


Flauti.
Ex. 341.
Oboi.
Clarinetti in C.
Fagotti.
Corni in C.
Violini.
Strings in unison forming the bass.
Viole.
Violoncelli.
Bassi.


Flauti.
Ex. 342.
Oboi.
Clarinets doubling the Fagotti.
Clarinetti in C.
a.2.
Fagotti.
a.2.
Corni in C.
a.2.
1. Violini.
2. Violini.
Viola an octave lower than the Violins or an octave higher than the Cello.
Violoncelli.
Bassi.

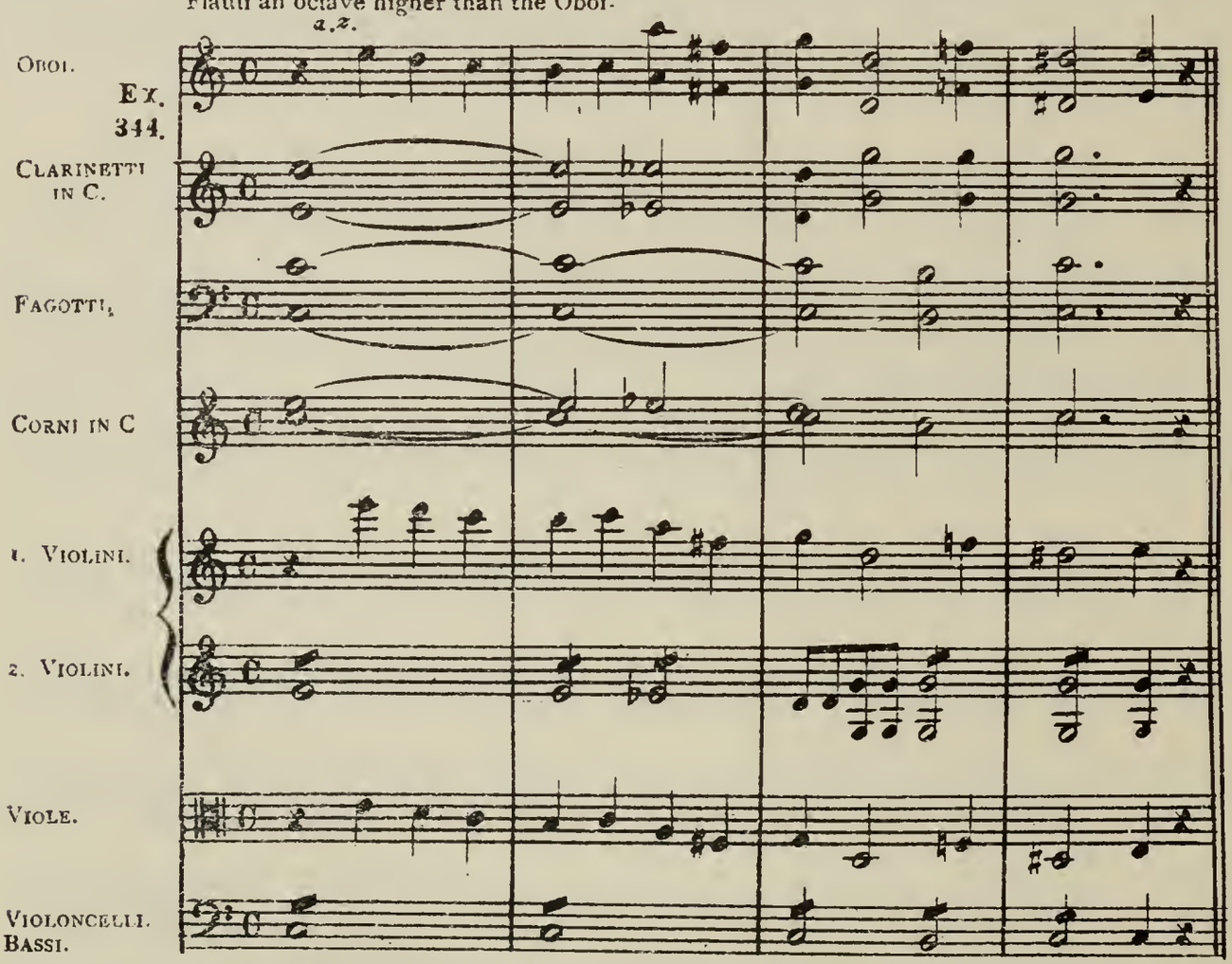
Ex. 343.

Wind instruments in unison.



Ex. 344.

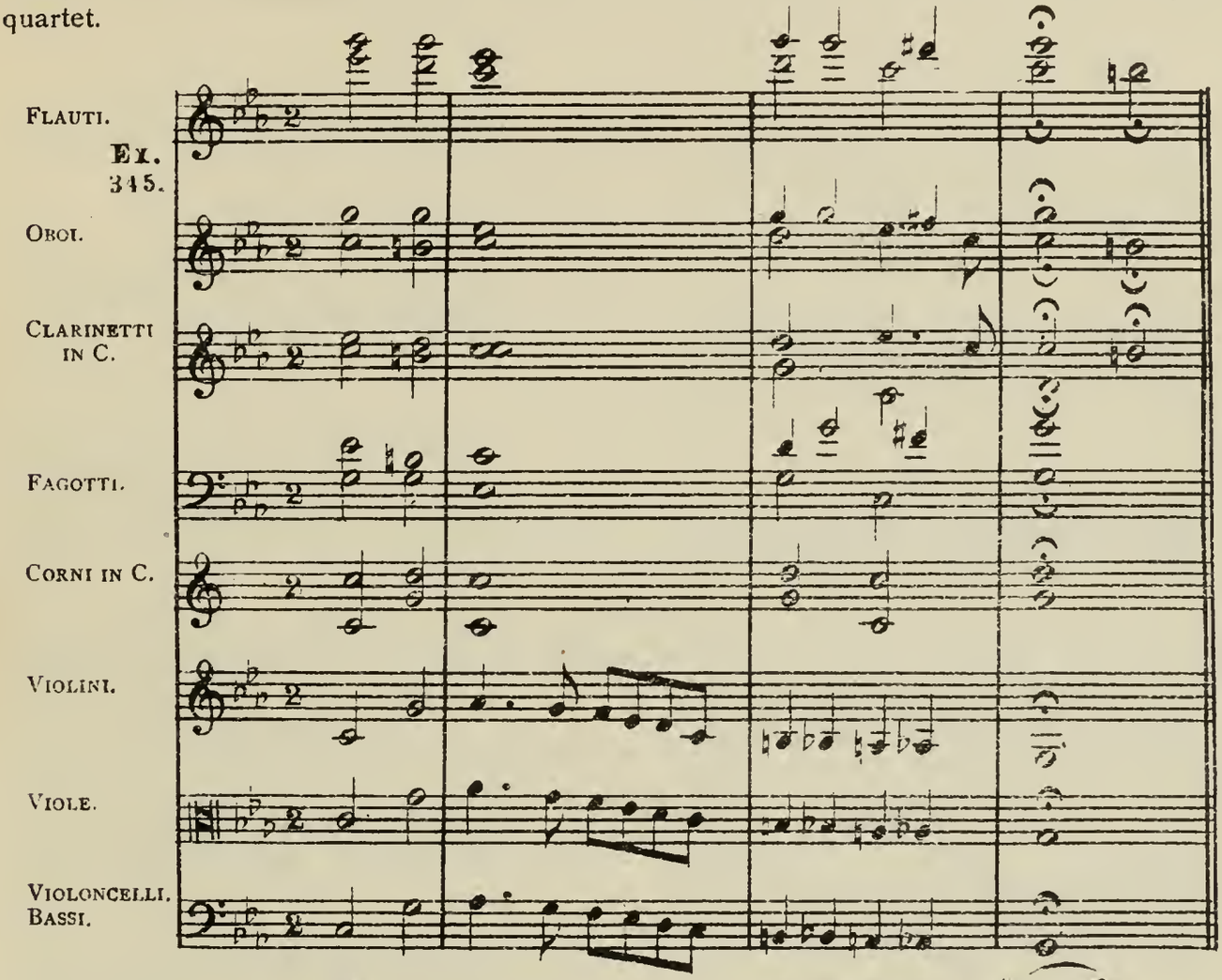
Flauti an octave higher than the Oboi.



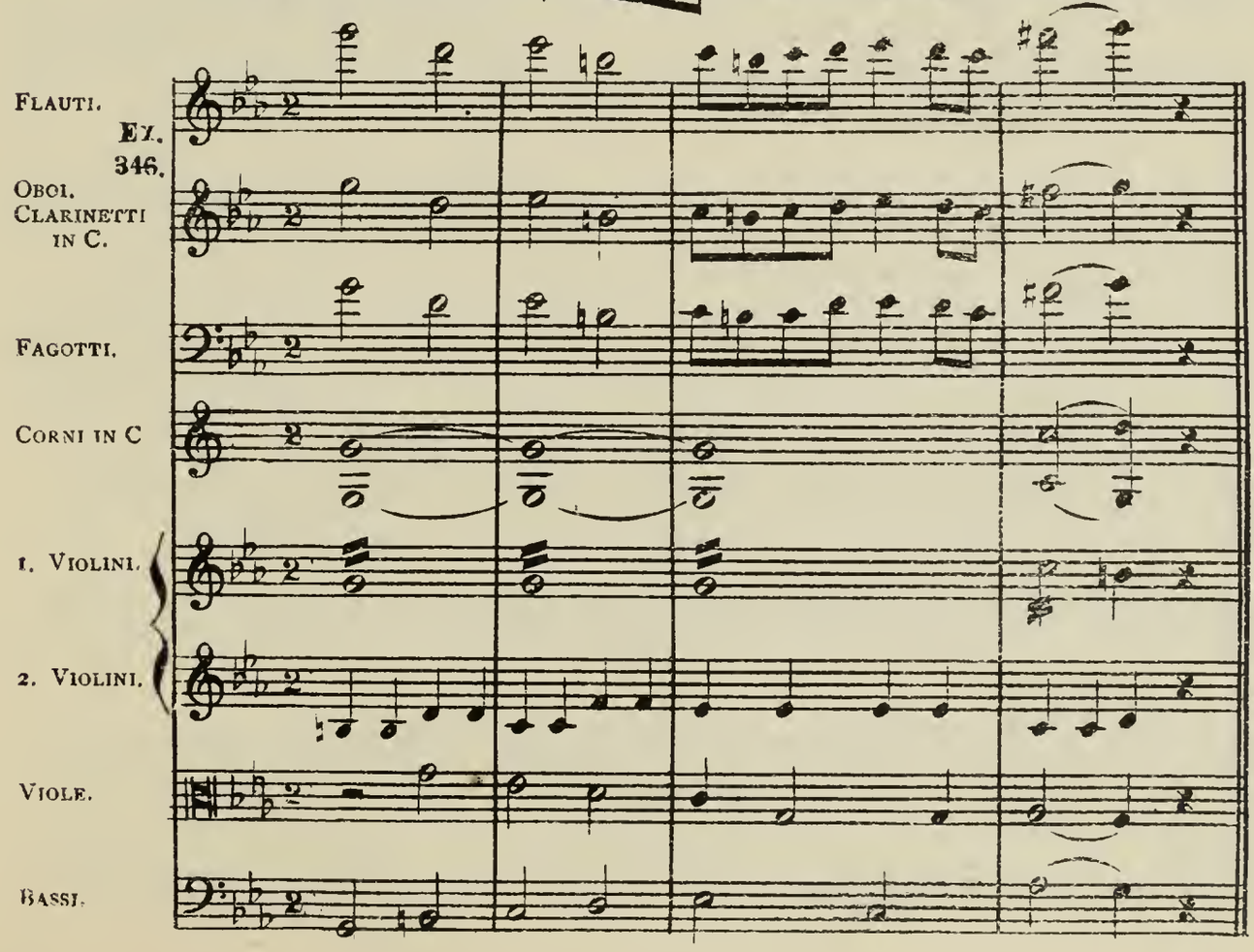
In four part counterpoint the upper three parts may be given to the wind instruments, and the bass to all the strings in unison (Ex. 345); or the upper part may be played by all the wind instruments in unison, and the other three by the strings (Ex. 346).

Whenever each mass is considered separately, and forms correct counterpoint in four parts, two parts may be given to the wind instruments; the other two (one of which must be the bass) to the strings. All four parts may also be executed by either of the two masses, each forming a complete quartet.

Ex. 345.



Ex. 346.



Counterpoint on a pedal-note may be played by the masses in two ways; either the stringed instruments may play the pedal-note in unison or octave, while the wind instruments execute the harmony above it (Ex. 347); or the pedal-note may be given to the deep instruments of both masses, and the harmony above to the higher instruments of both masses. (Ex. 348.)

Pedal on the dominant.

Ex. 347.

Flauti.

Counterpoint in four parts for the wind instruments.

Oboi.

Clarinetti in C.

Fagotti.

Violini.

The pedal for the strings in unison.

Bassi.

Ex. 348.

Flutes. Oboes.

Flutes octave higher.

Clarinetti in C.

Fagotti.

Corni in C. Tromboni.

These instruments are added to strengthen the pedal, because the basses are not sufficient to give it with effect.

Timpani.

Violini.

Viole.

Violoncelli. Bassi.

Passages in the unison or octave are used to emphasize a majestic trait of melody. Examples 349 and 350 show the different applications of this.

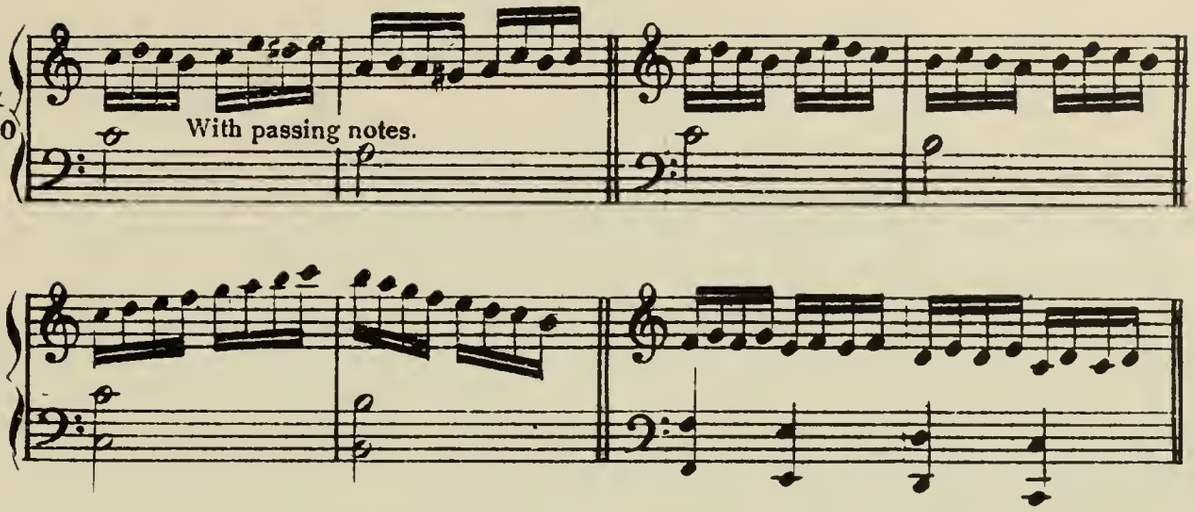
Ex. 349.

Unison with syncopation.

Interrupted by rests.

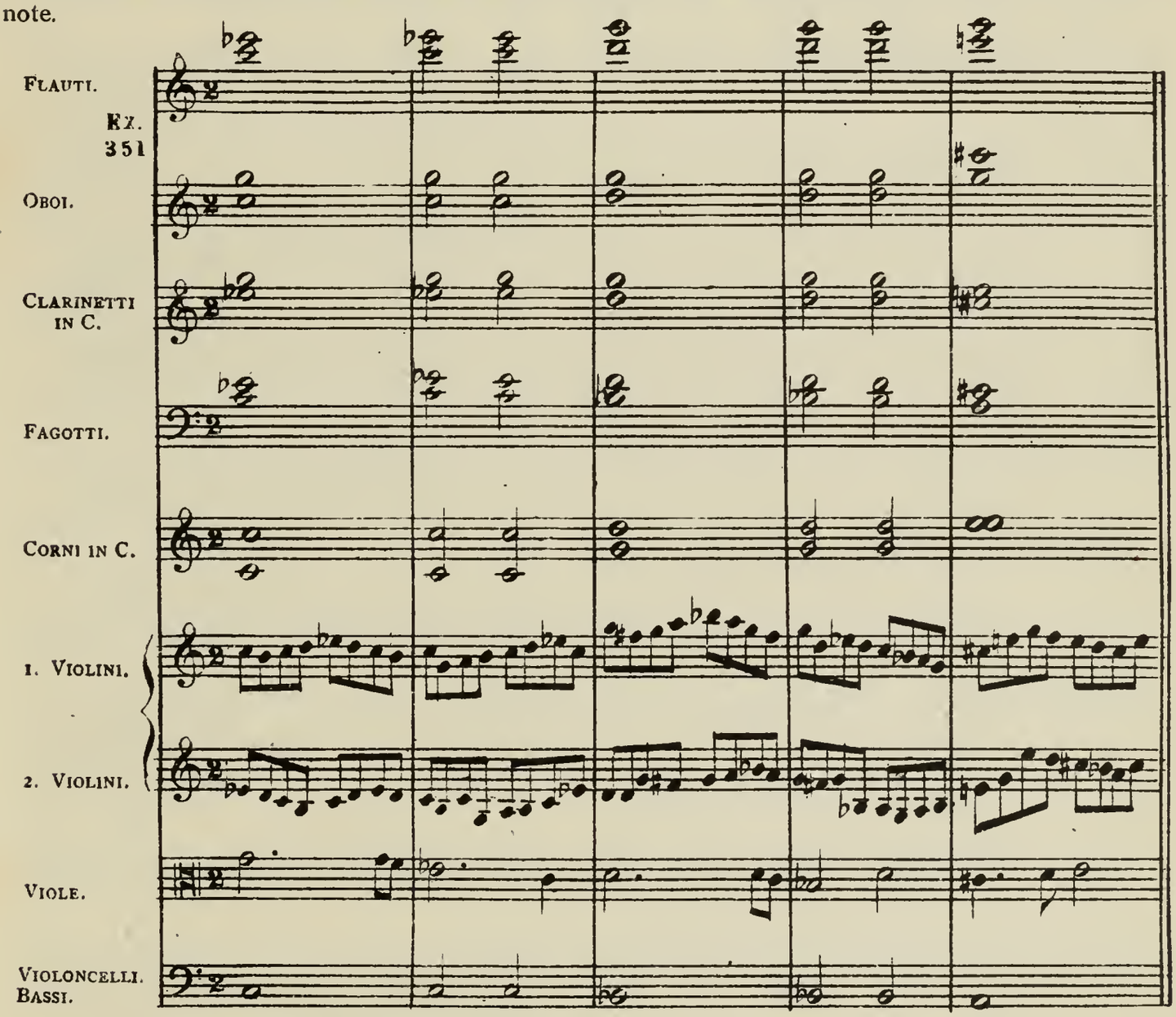
With appogiaturas.

Ex. 350



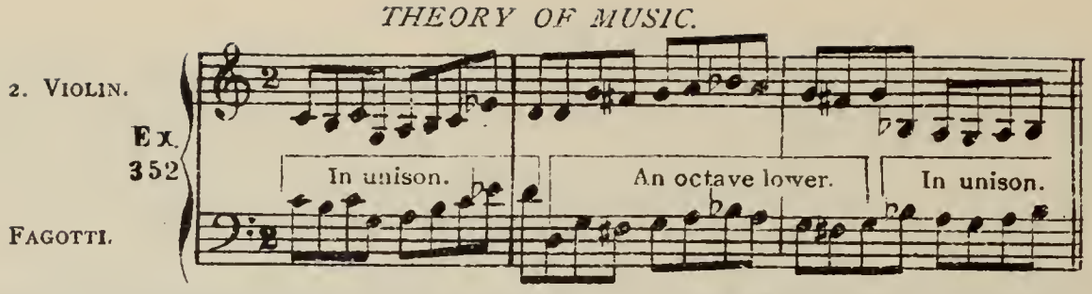
Whenever the stringed instruments perform quick passages in florid counterpoint of either eighths or sixteenths, the wind instruments must move as much as possible in plain chords of note against note.

Ex. 351

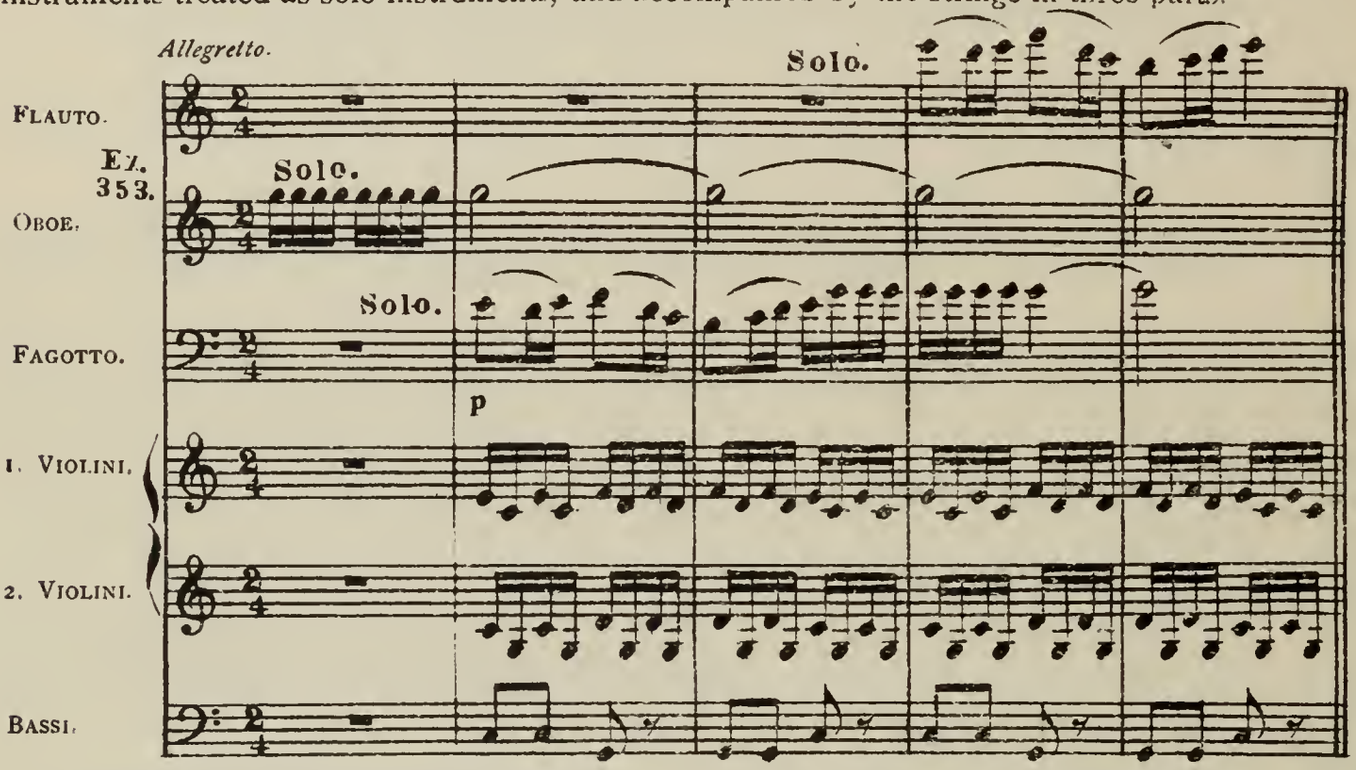


However, in such passages the wind instruments may occasionally double the strings, provided the notes are easy to perform, and not too rapid.

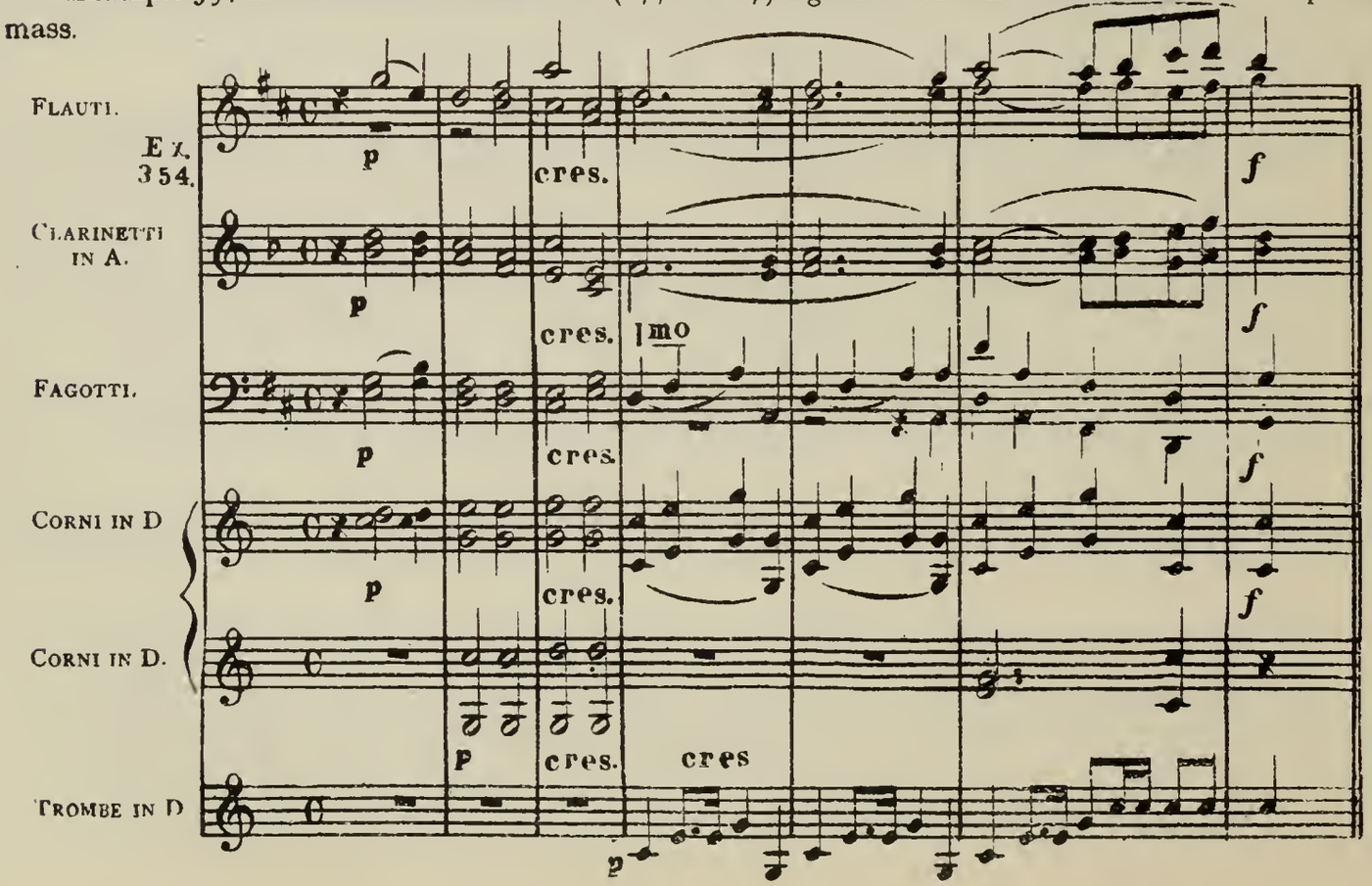
In Example 352 will be seen how the bassoon, according to its compass, doubles the second violin part.



The combined orchestral masses or tuitis, must be employed with great care and not be of long duration, as otherwise the music will degenerate into mere noise. They make the best effect after intervals of repose. If used incessantly the resources are exhausted, involving the loss of the means of varying the effect. Example 353 gives a passage from Beethoven's (1770–1827) Egmont for wind instruments treated as solo instruments, and accompanied by the strings in three parts.

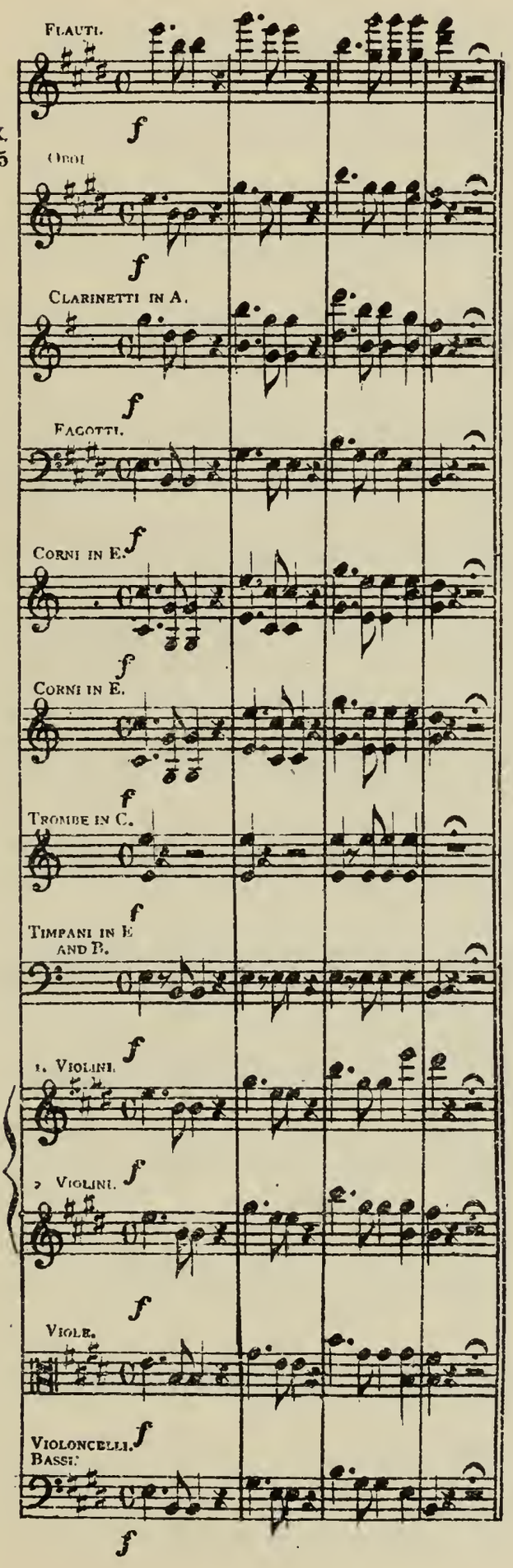


Example 354 is taken from Beethoven's (1770–1827) Egmont for wind instruments as a separate mass.



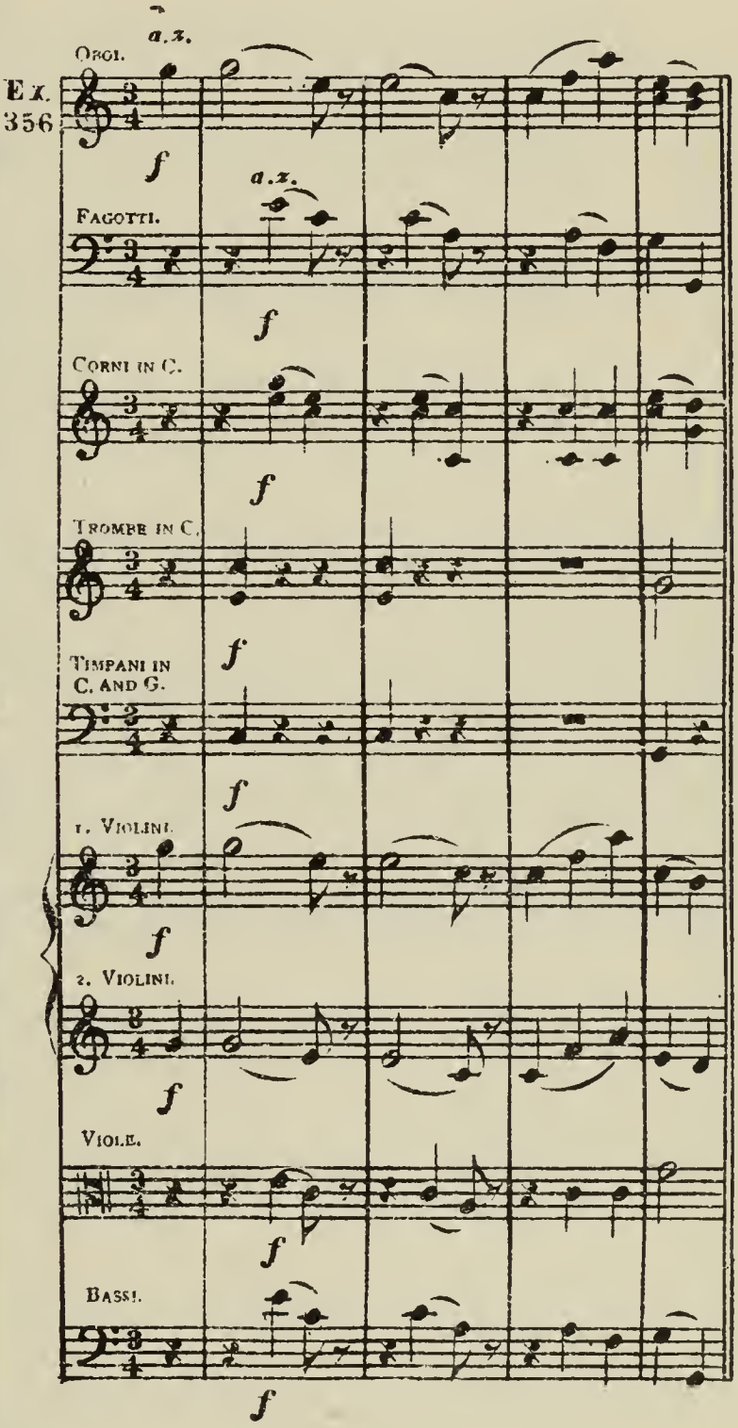
The opening of Beethoven's (1770–1827) Overture to the opera Fidelio gives a passage in unison and octaves for the whole orchestra.

Ex. 355



The following fragment from a minuet by Mozart (1756–1791) shows how to treat two part counterpoint for both masses combined.

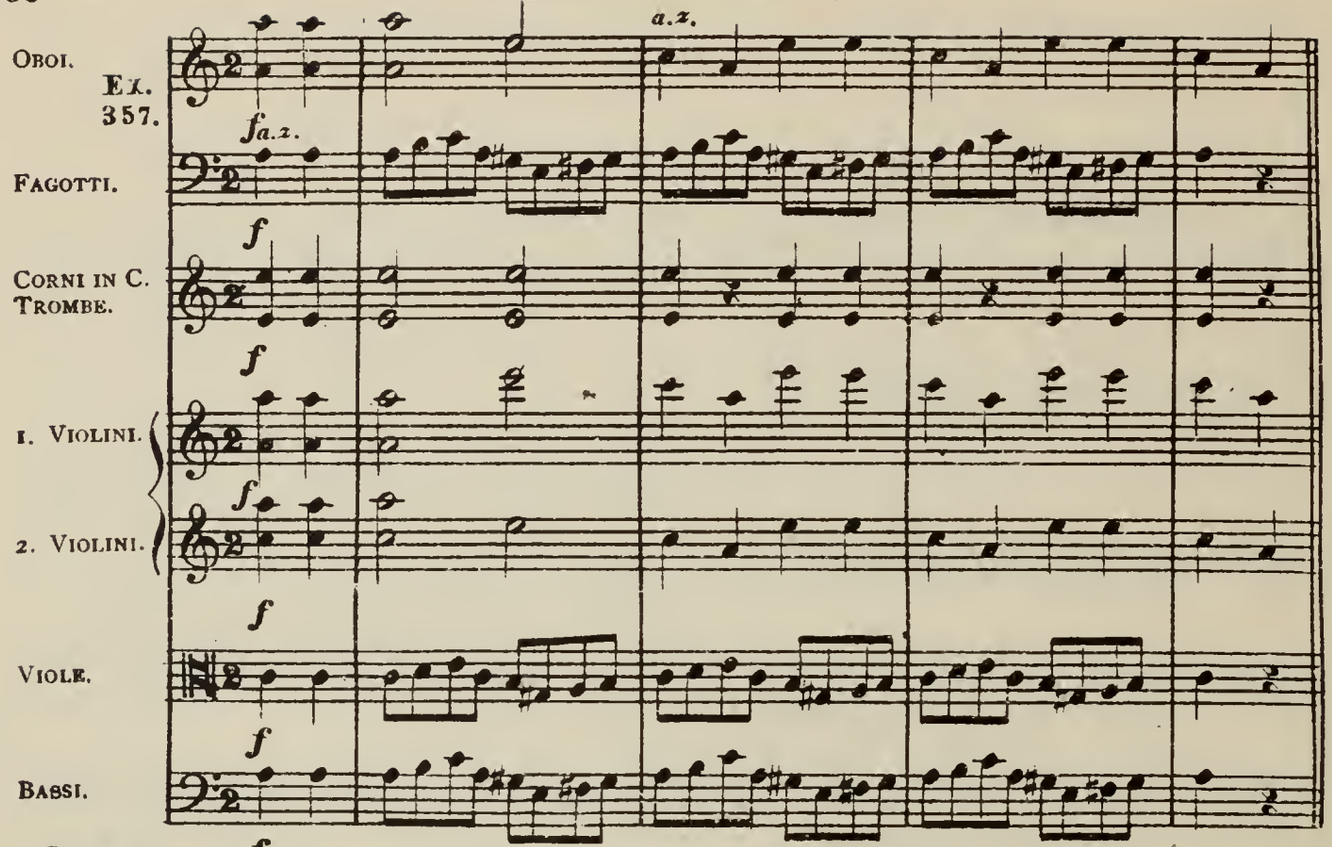
Ex. 356



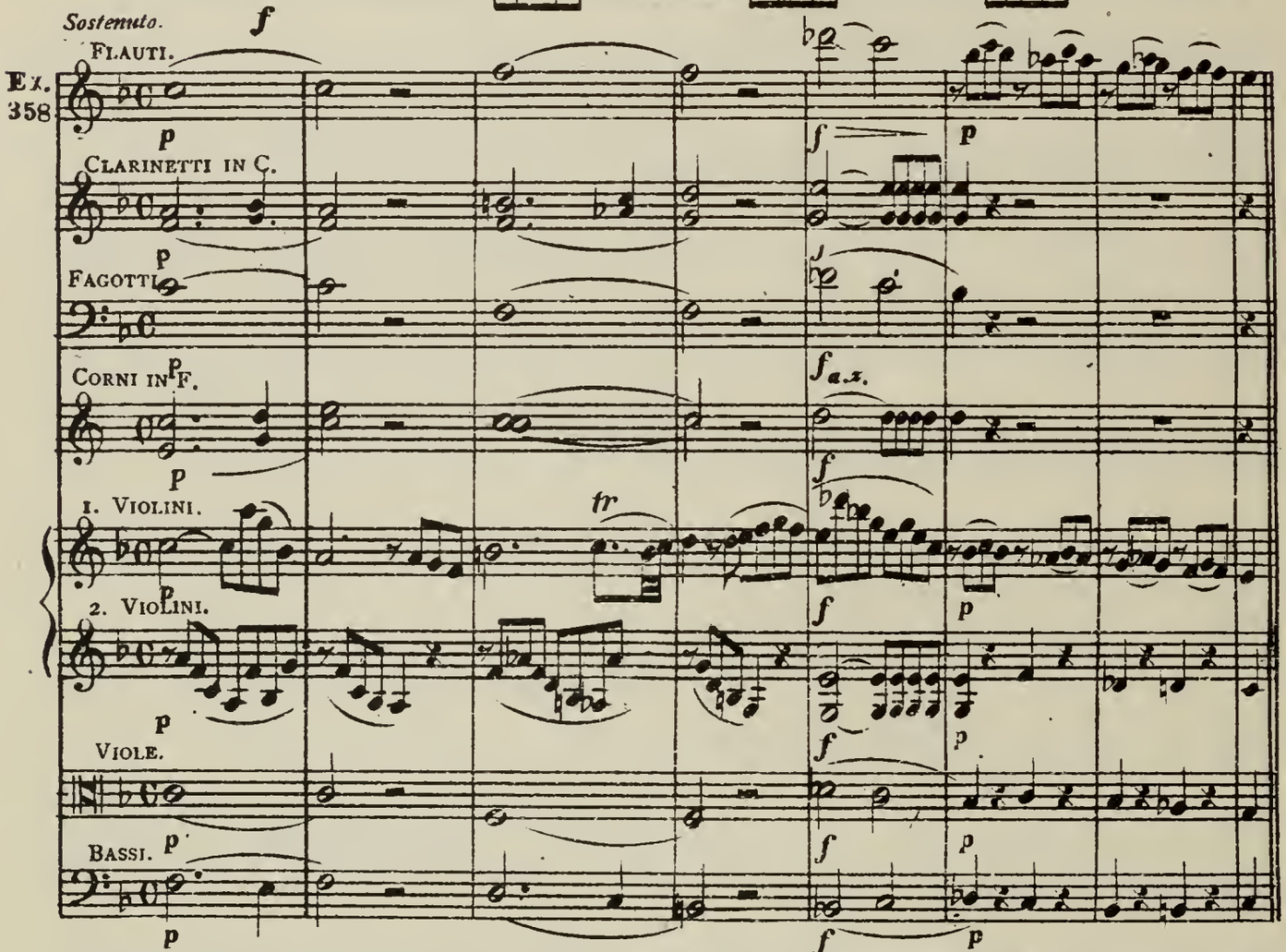
Example 357, from Mozart (1756–1791), shows both masses combined in three part counterpoint.

Example 358, from Cherubini (1760–1842), shows both masses united.

Ex. 357.



Ex. 358



Whenever choruses in two, three, four or more parts are employed, they must form a separate mass independent of the orchestra, and be treated in exactly the same manner as either of the two masses of stringed or wind instruments, of which we have already spoken. Whenever a solo voice is accompanied by the orchestra, the stringed instruments, as a rule, form the harmony, and the wind instruments are treated as solo instruments.

ORCHESTRA.

The term orchestra was applied by the ancient Greeks to a certain circular part of the theatre where dancing was performed.

At present we understand by the word orchestra that inclosed part of a theatre, between the audience and curtain, in which the instrumental performers are seated. The word orchestra is also applied to the performers themselves, in case we speak of a concerted performance.

A concert orchestra should be composed of at least forty stringed and twenty wind instruments for a hall of average size. In case of a large hall, the stringed instruments should be proportionally increased, though it is not prudent to let the whole number of performers exceed one hundred, as beyond this number precision of execution is difficult for acoustic reasons. As far as strength is concerned, no vigorous forte passage will be possible, because an excessive number of strings tends to soften down the wind instruments, thus making the passages from strongest forte to softest piano a failure. As far as volume is concerned, a hall will only allow of a certain number of tone waves, and if these be in excess of the size of the room, the tones of similar vibration will absorb each other. This is the reason why performances on an extravagantly large scale leave a certain feeling of disappointment, notwithstanding the satisfaction they give to the eye by the imposing array of performers. After all, music is not intended to be other than an expression of abstract emotion, marked either strongly or softly, and for this need not depend on any unnecessarily large apparatus.

The best way to seat performers on a concert stage is in tiers like a flight of steps, so arranged that the tone of each instrument can reach the ear without intervening obstacle. There are two ways of grouping the performers. On the left of the director place all the first and second violins, the violas in a single row in front of him, behind them the violoncellos, and back of them the double-basses. On the right of the director place the wooden instruments, and back of the entire mass the brass and percussion. The advantage of this arrangement is, that the several divisions of the orchestra, as the strings, the wood and the brass, are thus separated, and compositions in which dialogues between the groups occur, will give more artistic satisfaction.

The second way of seating an orchestra is to place the first violins on the left of the director, the second on his right, the violas in front of him, behind them the violoncellos, and back of them the double-basses; raised behind the double-basses the wooden instruments, and still higher behind them the brass and percussion. In this arrangement the strings do not veil the wind, because the latter are in higher position, and the groups being separated, the tones come out clearly. But the disadvantage is, that the backs of the instruments of the second violin players are turned toward the audience, thereby diminishing their volume of tone. Another drawback to this arrangement is, that in the music of the old masters, where the first flute, oboe and bassoon play conspicuous solo parts, the tone of these instruments will be weakened by the volume of string-tone in front of them. An illustration of this fact is shown in performances of the slow movement of the E minor piano-concerto by Chopin (1810–1849), where the melodious passage for the bassoon is frequently lost, on account of the player being seated in the back part of the orchestra. The director should therefore note in advance the instruments having conspicuous solo parts to play, and if in unfavorable position move them to the front.

When orchestra and chorus are combined, the chorus can be seated on a lower platform in front of the orchestra, or on raised tiers behind it.

The orchestral parts, properly revised and lettered, should be placed on the stands before the hour of rehearsals and the instruments tuned. The director will take such position as to command each division of the orchestra separately and the whole as a unit. He should possess a clear idea of the characteristics and principal points of the work to be rehearsed, and indicate the time without the slightest hesitation. He uses a small stick about seven inches long, called a baton, which is best made of rattan, or other light material, painted white and varnished. This he holds slightly above his head. In quick time the beat must be short and decided; in slow time he may give a more undulating motion to the hand, but will use the whole arm as little as possible. Rules for beating time, page 6. He will see that the performers render their parts correctly without falling into the too

frequent habit of indolent mezzo-forte playing; point out which instruments must be especially heard, and which are not to be prominent. He must, above all, be alert, decided and quick, as economy of time is imperative.

Fine performances necessarily depend on sufficient rehearsal, the performers requiring time to digest the music mentally, in order to give it perfect execution. Each performer should know his part so well that he can give constant attention to the baton of the director. Berlioz (1803–1869) says, that an orchestra which does not watch the director has none.

After all, the composer of a symphony, opera or oratorio depends largely upon a multitude of agents intermediate between himself and the public; and these, if intelligent and well drilled, may contribute greatly to the success of his music, but if not, may spoil it entirely.

We have now come to the closing page of the work, which has mainly been one of love, dictated by sympathy with the earnest student who seeks information. We hope, therefore, that the treatise will be accepted in the same spirit in which it was conceived; and we trust that it may serve, sometimes as a guide in perplexity, sometimes as a help in need, and at all times be welcome as a book of reference.

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